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# The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Every Thursday TULSA, OKLAHOMA, FEBRUARY 13, 1930 $6.00 a Year

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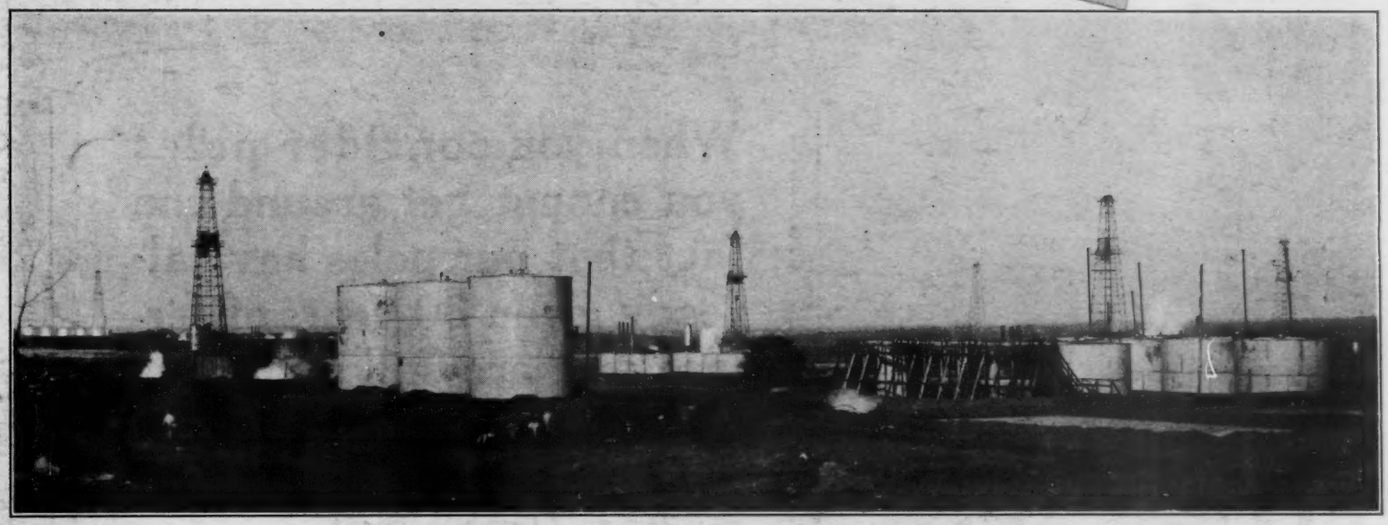

*Batteries of 1500-Bbl. and 1000-Bbl. Maloneys on I.T.I.O. Thomas Fuzell lease, Oklahoma City. Erected by distributer, Maloney Sales Corporation.*


# IT *PAYS* TO BUY *MODERN* LEASE TANKS

FEW operators today would consider using the old wood, sheet-iron or steel tanks with open manholes which allowed evaporation to work unchecked. Yet scores of producers still permit breathing of lease tanks to rob their oil of its gravity and volume when they could eliminate these losses by using MALONEY *Vapor-Pressure* Tanks.

Our *Vapor-Pressure* flow and stock tanks are the last word in the economical handling of oil between the well and the pipeline. They hold all the vapors, and maintain the well gravity and volume of the crude. It pays to buy these modern tanks which prevent the waste of your oil and income.

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MALONEY TANK MFG. COMPANY

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Maloney A.P.I. Bolted Steel Tanks conform to A.P.I. dimensional standards, and carry the official A.P.I. monogram.

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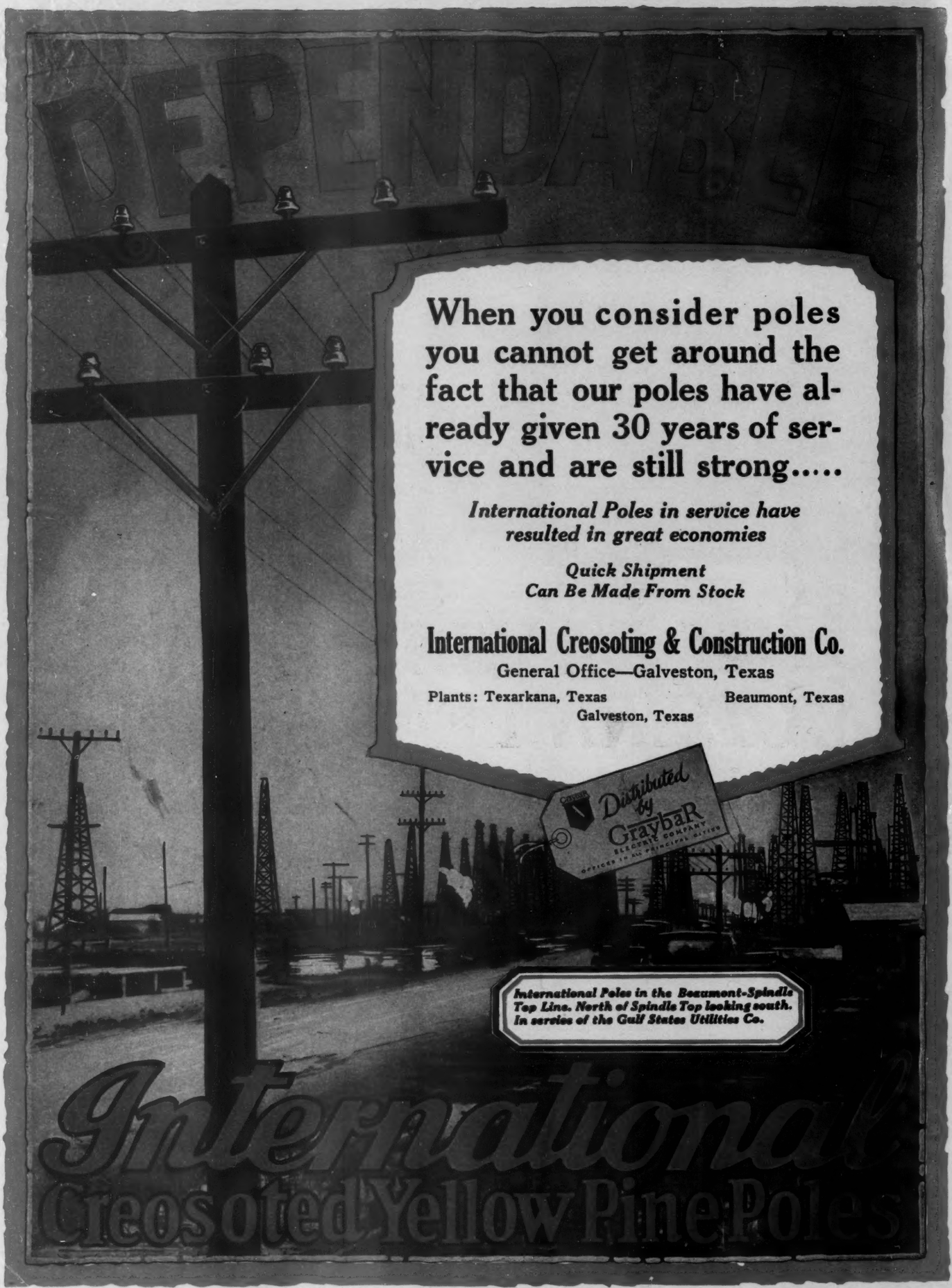
MALONEY PATENTED BOLTED COPPER-STEEL TANKS


Advertisers' Index on Page 35 Table of Contents on Page 36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When you consider poles you cannot get around the fact that our poles have already given 30 years of service and are still strong.....
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International Poles in the Beaumont-Spindle Top Line. North of Spindle Top looking south. In service of the Gulf States Utilities Co.
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*Specify*

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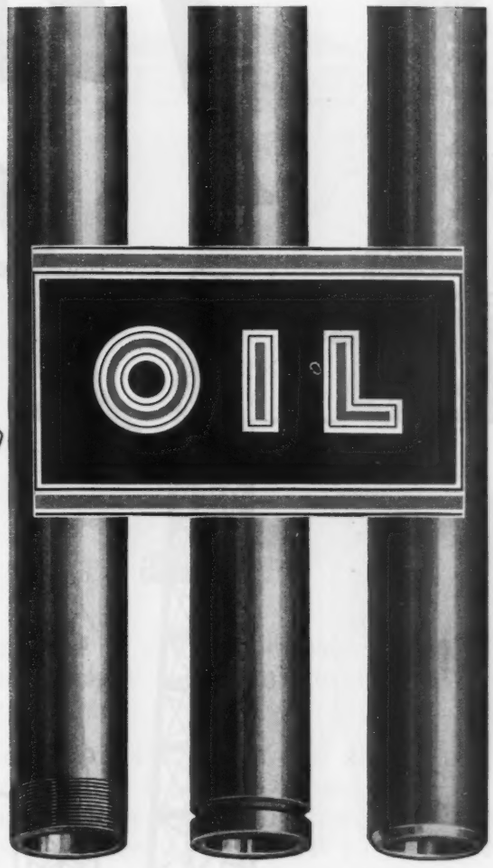
**C.N.I.**

CAST PIPE *for*




● Walworth C. N. I. (Chrome-Nickel-Iron) cast pipe is the solution for many of the oil refinery's problems of pipe corrosion. ● In certain services it offers unusual advantages because it combines the endurance of cast iron with the convenience of other kinds of pipe. ● For you can cut and thread C. N. I. pipe on the job with hand tools and connect it up with regular pipe fittings and valves.

● Send for the C. N. I. Pipe Manual. ● It tells where we recommend the use of C. N. I. pipe — and, with equal frankness, where we do not recommend it.

THREADED for SCREWED COUPLING

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**The Oil and Gas Journal,** issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.

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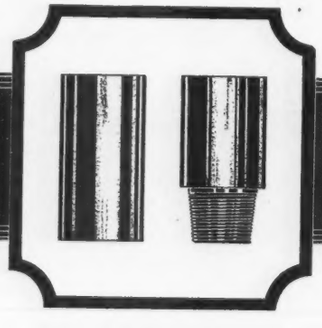
## *Stands for*

## STRENGTH

**Where the field test proves greater tensile strength—less leakage—and greater pressure at all times—you will usually find that SPENGLER Heat-Treated TOOL JOINTS are on the string!**

**Scientific treatment of a specially developed steel alloy insures more dependable service and better results throughout the entire drilling operation.**



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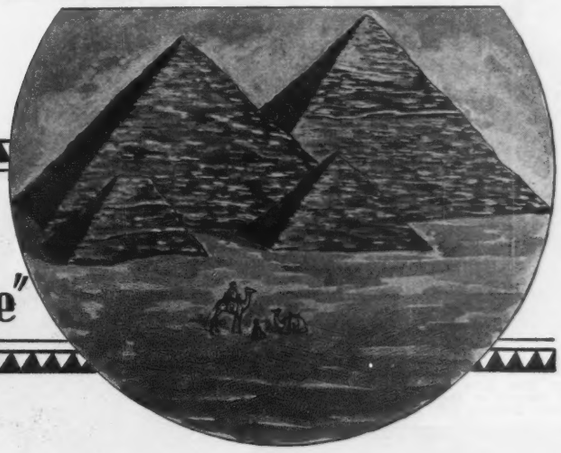
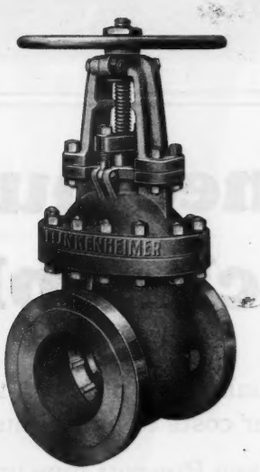
**OKLAHOMA CITY, OKLAHOMA**

SPENGLER TOOL JOINTS MEET A.P.I. SPECIFICATIONS

*For nearly 5000 years the colossal Pyramids have reared their giant bulk from the hot sands of Egypt. This large mass of brick and stone is the oldest and the lone survivor of the ancient Seven Wonders of the World.*



"Time Mocks All Things"
*says an Arab proverb,*
"But the Pyramids Mock Time"




**The complete Lunkenheimer line includes valves of bronze, iron and steel; gate, globe, angle, cross, check, blow-off, non-return, pop safety and relief valves; lubricators, oil and grease cups, cocks, whistles, fittings, etc.**

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**The indomitable spirit and untiring energy which built the time-defying Pyramids finds a modern counterpart in the Lunkenheimer ideal to build Valves that mock time...that will stand up under gruelling test of the present-day speed and mass production...that will give an extra measure of service in longer life, fewer repairs and lower maintenance expense.**

**Lunkenheimer Valves are an investment that will pay dividends in satisfying service and low ultimate cost.**

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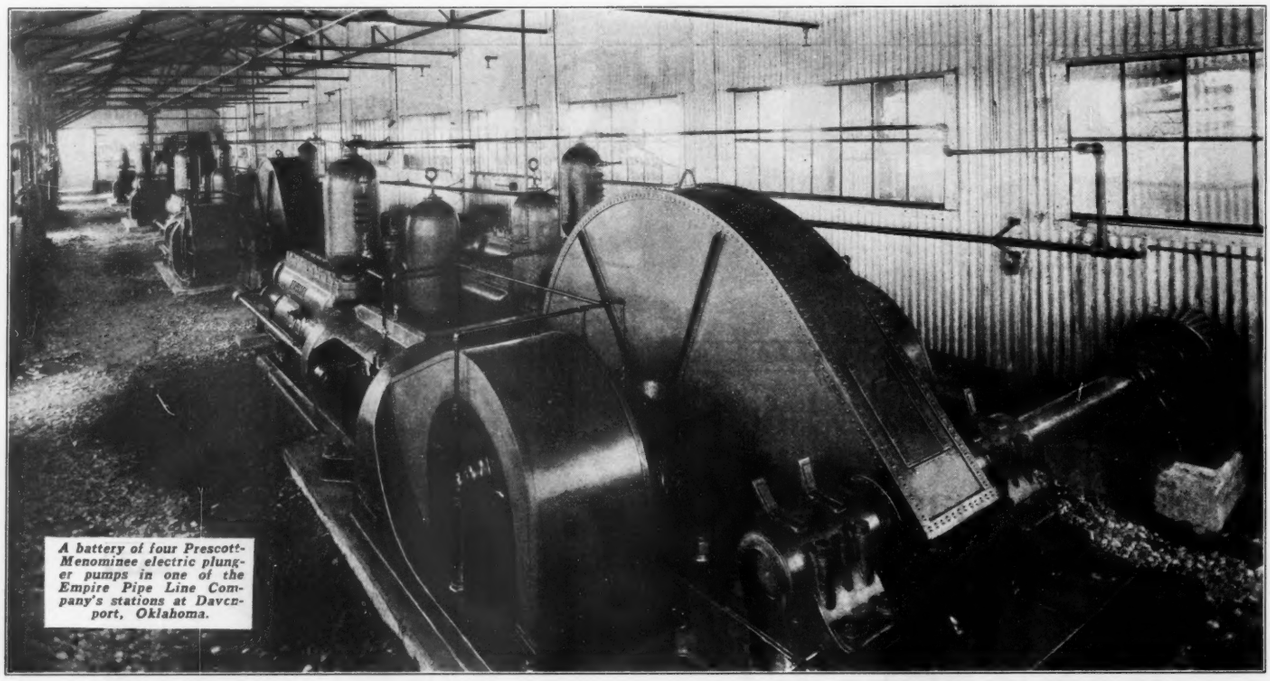

*A battery of four Prescott-Menominee electric plunger pumps in one of the Empire Pipe Line Company's stations at Davenport, Oklahoma.*

# Prescott-Menominee pumps deliver the oil cheaply

THAT is the principal reason why they are the popular choice of experienced pipe line engineers. The low operating cost of Prescott pumps is due not only to the extremely low power consumption but because maintenance costs are almost negligible.

High operating efficiency over a wide range of load conditions, which is an inherent quality of plunger type pumps, cuts power costs to a minimum.

Motor driven Prescott pipe line pumps are establishing new standards for dependability, ease of operation and economy.

Our many years of experience in building pumps for all kinds of pipe line services are at your disposal. Write for catalogs and performance data.

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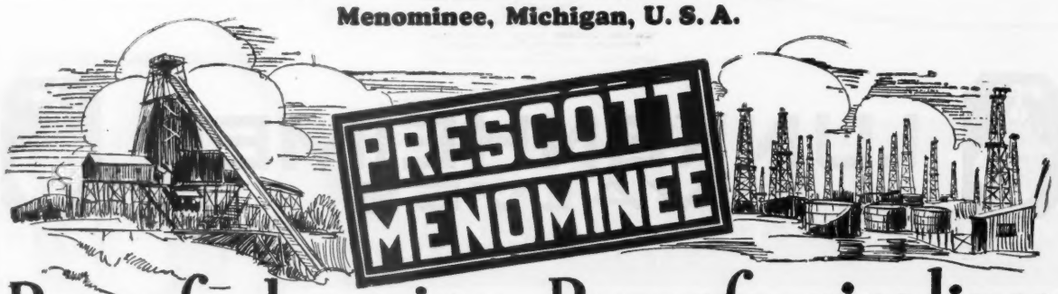
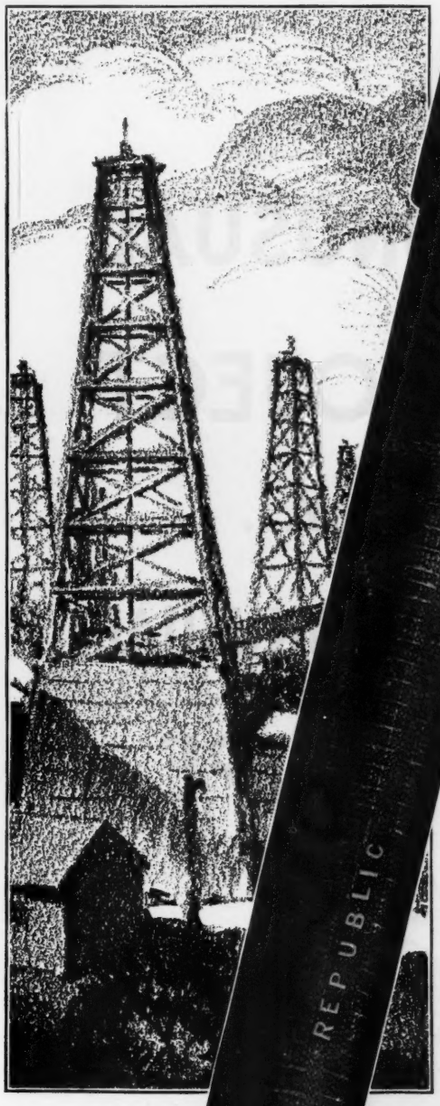
**Menominee, Michigan, U. S. A.**




**Pumps for deep mines ~ Pumps for pipe lines**

O&GJ 2-12-Gray



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A FERROUS pipe of far more than ordinary character—made from a true alloy of highly refined iron, copper and molybdenum.

A pipe that has proved its unusual corrosion and rust resisting qualities in actual service under the most adverse conditions.

A pipe that has shown a remarkable life in service made difficult by the presence of salt and sulphur solutions.

A pipe that can mean fewer shut downs and lower production costs on your wells.

Let us tell you the names of some of the prominent users of Toncan Iron Casing, Tubing, and Line Pipe,—their experience and comments.

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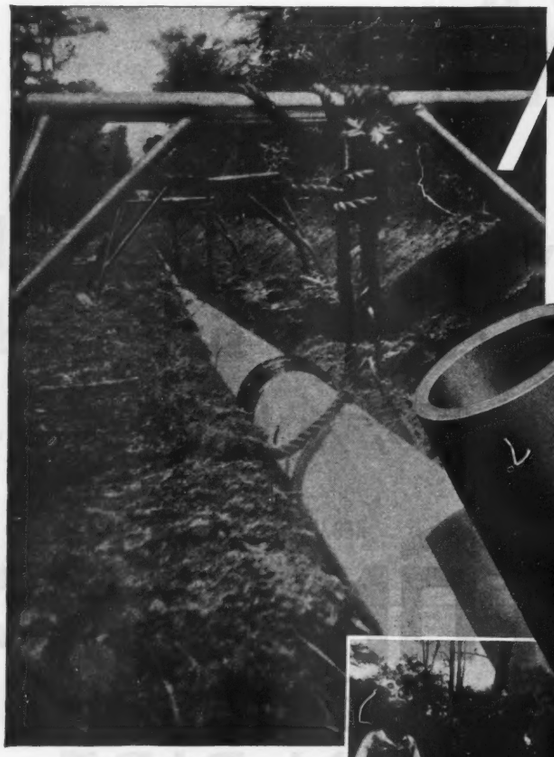
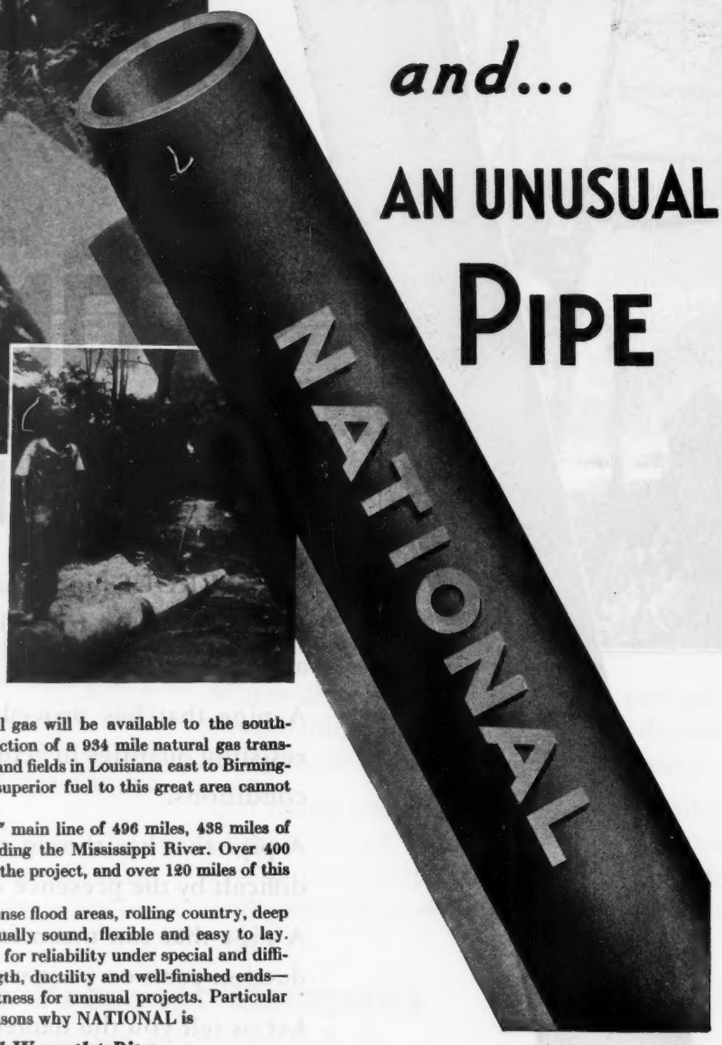


# AN UNUSUAL PROJECT *and...* AN UNUSUAL PIPE






**BIRMINGHAM GAS LINE**
*of*
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FORD, BACON & DAVIS, INC.
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FOR the first time in history, natural gas will be available to the southeastern states as a result of the construction of a 934 mile natural gas transmission system from the Monroe and Richland fields in Louisiana east to Birmingham and Atlanta. The importance of this superior fuel to this great area cannot be overestimated.

The construction includes a 22" and 20" main line of 496 miles, 438 miles of branch lines, and 17 river crossings, including the Mississippi River. Over 400 miles of NATIONAL Pipe is being used in the project, and over 120 miles of this will be in double random lengths.

Pipe lines that cross mighty rivers, immense flood areas, rolling country, deep ravines and rock formations, must be unusually sound, flexible and easy to lay. NATIONAL Pipe's well-established record for reliability under special and difficult conditions—resulting from great strength, ductility and well-finished ends—is substantial evidence of its particular fitness for unusual projects. Particular fitness for unusual projects is one of the reasons why NATIONAL is

***America's Standard Wrought Pipe***

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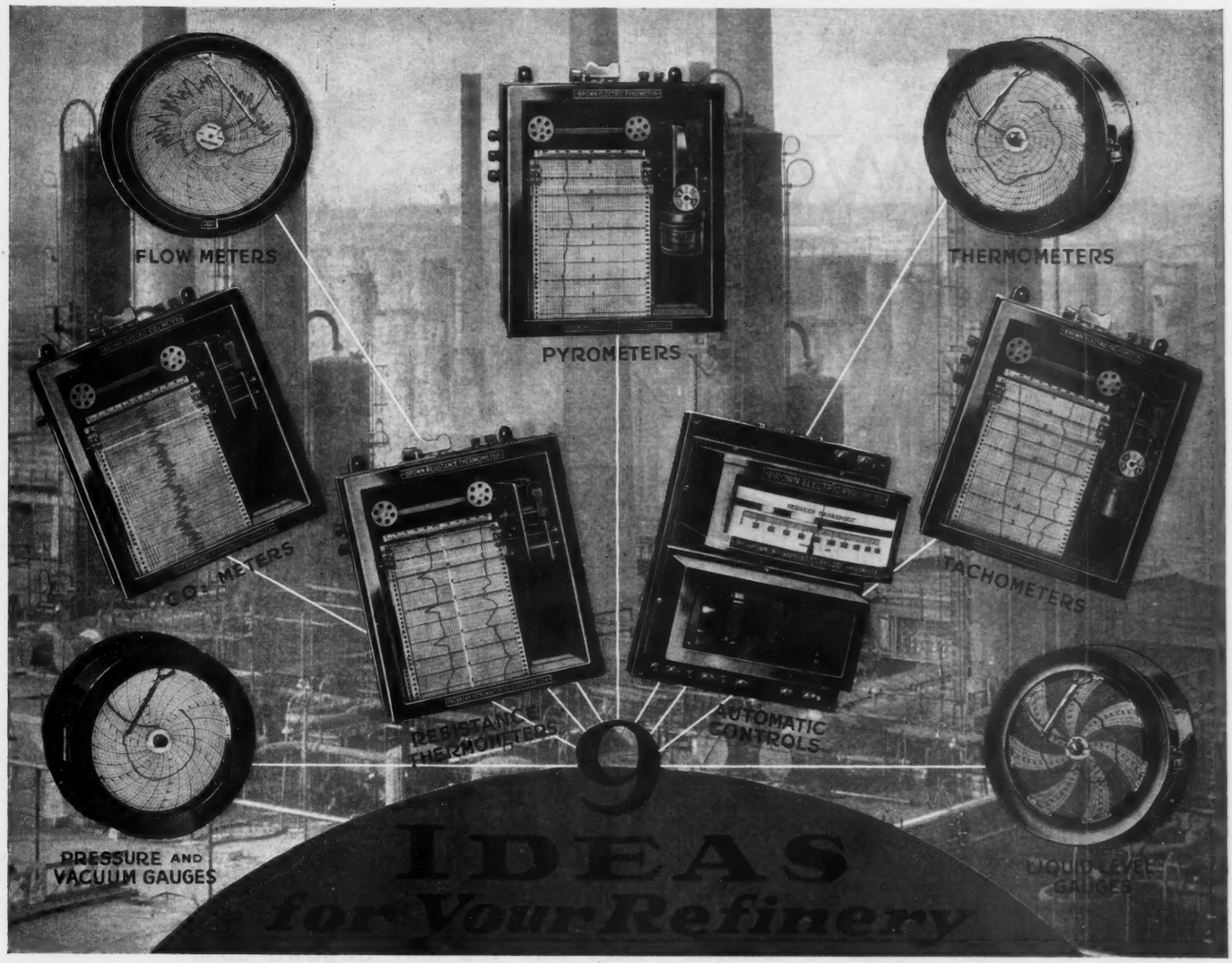


**FLOW METERS**
For indicating, recording and controlling the flow of oil, gasoline, gas, steam, water, air and other liquids, gases or vapors encountered in the production, refining and transportation of petroleum and petroleum products.

**THERMOMETERS**
For indicating, recording and controlling temperatures ranging up to 800° F. where the instruments may be located at relatively short distances from the points where the temperatures are to be taken.

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For indicating, recording and controlling % $CO_2$ in still and boiler furnace to check and insure proper firing efficiency.

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For indicating, recording and controlling pressures and vacuums in stills, towers, steam and power plants, etc., in and around the oil refinery.

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For indicating, recording and controlling temperatures in stills, towers, furnaces, flues, lines, etc., in and around the oil refinery.

**RESISTANCE THERMOMETERS**
For indicating, recording and controlling low temperatures such as are encountered in de-waxing plants.

**AUTOMATIC CONTROLS**
For automatically controlling, within desired limits, temperatures, pressures, flows, tower levels, speeds and % $CO_2$.

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For indicating, recording and controlling speeds of pumps, fans and other machines in the refinery.

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For indicating, recording and controlling the level of petroleum and petroleum liquid products in tanks, towers, etc., at a distance.

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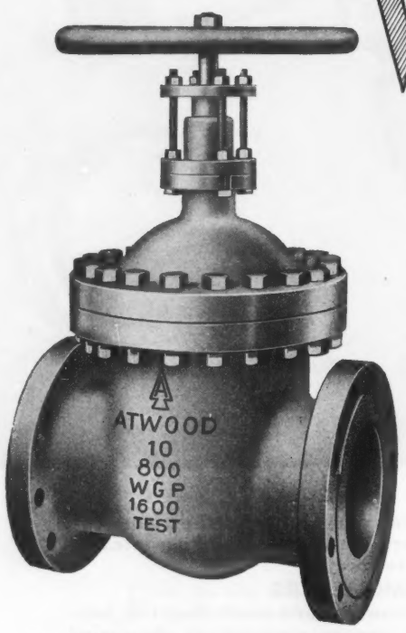
*Branches in 20 principal cities.*

# Brown Instruments

*To Measure is to Economize*

# ATWOOD Valves for High Pressures




*10" 800-lb. working pressure, 1600-lb. hydrostatic test, ATWOOD High Tensile Iron Body, bronze mounted, inside screw. Body and bonnet designed so that all sections are either spherical or cylindrical in shape, having a male and female bonnet joint.*

FOUNDERS' experience of more than a century is cast into every ATWOOD valve body, so that when you specify an ATWOOD, you are certain to obtain the toughest, most enduring valve for the particular service for which it is intended. Maintaining our own iron, steel and brass foundries, pattern and machine shops, ATWOOD quality and design, from drawing to final pressure test, is absolutely under our own control. That's why you may depend upon ATWOOD valves for the higher pressures and more severe services.

For the most advanced type valve for every Oil, Gas and Steam Line condition, specify ATWOOD—designed and built to guarantee dependability, minimize maintenance expense and increase efficiency and the safety factor. Or should you have some unusual valve problem on your hands, ATWOOD Service—upon your request—is ready to help you at any time.

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MANY oil companies and supply men have standardized on Bignall & Keeler Pipe Threading Machines. They produce the highest quality of thread with practically unskilled labor. For 20 years they have demonstrated, in actual service, their speed, dependability and ease of operation. You can confidently expect any B & K machine to pay for itself in better work and lower costs.

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Let us send you our catalog. One of the 17 different types of B & K machines is certain to fit your need.

## Bignall & Keeler Machine Works
### of the N. O. Nelson Mfg. Co.
### Edwardsville, Ill.

OGJ 2-13-Gray

# Not a Single Joint Has Shown a Defect Due to Workmanship or Material

**From a letter of Magnolia Gas Company, September 11, 1929, to Mr. L. R. Smith, President, A. O. Smith Corporation, Milwaukee, Wisconsin**

"I want to take this opportunity of advising you that the two hundred and thirty odd miles of twelve, fourteen, eighteen, and twenty inch Smithweld pipe furnished by you for the building of the gas main line from Bruni, Webb County, Texas, to San Antonio and New Braunfels was as fine a lot of pipe as I have ever seen laid.

"The use of the bell and spigot and the expansion joint made possible the highest type of high pressure gas pipe line construction. The speed maintained in welding the joints in the field by the Smith Electric process enabled us to finish the welding much sooner than we had anticipated.

"The line was tested under high pressure. Several sections of it were closed in, and, over a ten-day period, did not show as much as a half pound drop, with temperature corrections; and not a single joint has shown a defect due to workmanship or material.

Yours very truly,

(Signed) Fred M. Lege, Jr.,
President."

**SMITH*WELDED***

A. O. SMITH CORPORATION

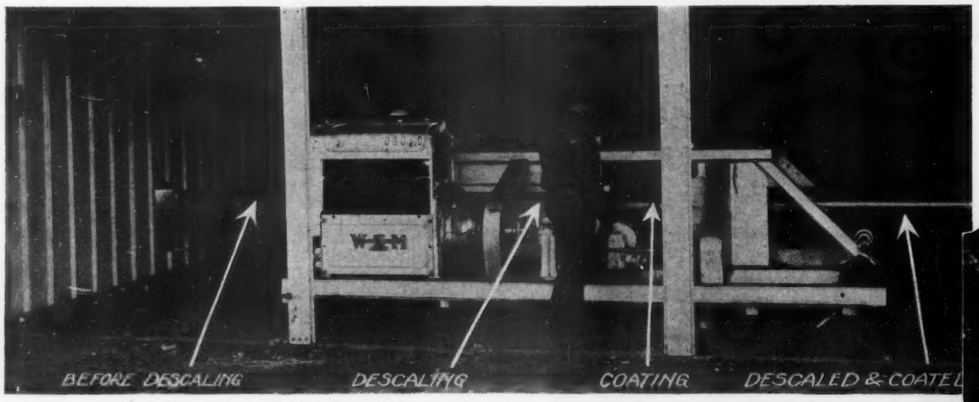
*Oil & Gas Field Products Division*

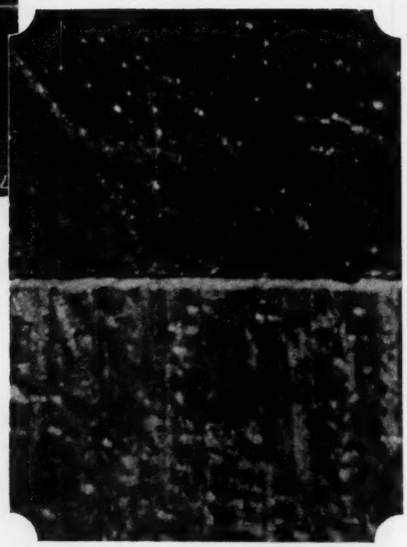
# LINE PIPE

General Offices: Milwaukee, Wis.

*District Offices at: New York · Tulsa · Houston · Los Angeles*

# LONGER LIFE FOR STEEL LINE PIPE



Top half shows the mill scale magnified 10 times.

Lower portion shows same pipe descaled and slightly roughened to grip and bind the protective coating to the pipe.

Full information and quotations gladly furnished on request.

Chester also makes all classes of Genuine Wrought Iron Tubular Goods.

## DESCALING

## *an economical form of pipe line insurance*

"Corrosion in underground pipe lines exacts an annual toll in the United States of at least one hundred million dollars," was the startling statement of a man well versed in the industry.

*Descaling* eliminates the principal cause of this rapid and constant deterioration. For descaling thoroughly removes all mill scale and provides a clean pipe surface over which to apply the protective coating of paint. Descaling prevents the destructive galvanic action between mill scale and the pipe.

Chester *descaled* pipe is your assurance that every particle of scale is removed and the pipe given a priming coat before it leaves the descaling machine.

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# This TWO SPEED TRANSMISSION means RESERVE POWER

THE two-speed transmission of Buffalo Drilling Unit Model "PB" gives plenty of reserve power when it is needed. Just pull a lever and the low speed reduction gear of 5 to 1 goes into action, practically doubling the driving power at the belt pulley.

"We are drilling with type 'PB' Buffalo engines for the Prairie Oil & Gas Company in Northern Kansas. I think they are better than steam as far as I can see, and a great deal cheaper for fuel and moving cost," says Robert Smith of Jones & Smith, contractors.

"The low gear is sure fine on a drilling engine, especially for handling pipe," writes F. C. Lawrence, Contractor, El Dorado, Kan. in speaking of the Buffalo "PB" model.

Give the Buffalo Drilling Unit a trial, and you, too, will find it more satisfactory, more economical than any other drilling outfits you have used. You will learn by experience that it cuts down operating costs, saves time in moving and setting up, requires less water, uses less fuel and oil for the power it delivers. It operates on natural gas or gasolene.

*Write today for booklet which tells all about Buffalo Drilling Units*

**BUFFALO GASOLENE MOTOR CO.**
**1282-1292 Niagara St. Buffalo, N. Y.**

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THE PRITCHARD SUPPLY CO.

*A special high pressure Braun gasoline fractionator on the first lap of a 12,000 mile journey to its destination.*

**A CAREFUL ADHERENCE to the highest standards of excellence... in research, design, materials and manufacturing procedure... has given Braun Bubble Towers their recognized high reputation for performance among the refining and natural gasoline industries.**

**Welded construction... according to specially developed methods of procedure and control... and riveted construction conforming with established standards, are available. The Braun organization is equipped to solve unusual and intricate fractionation problems.**

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BITURINE COATINGS

*Biturine Enamel* *Biturine Solution No. 5*
*Biturine Enamel Primer* *Biturine 70-30*
*Biturine Coupling Mixture*

This group of protective coatings represents the fruits of more than 20 years of careful research and practical experience. Biturine Enamel and Primer are particularly adapted to the Hill, Hubbell & Company process of mechanically applying protective coating to the pipe at the mill.

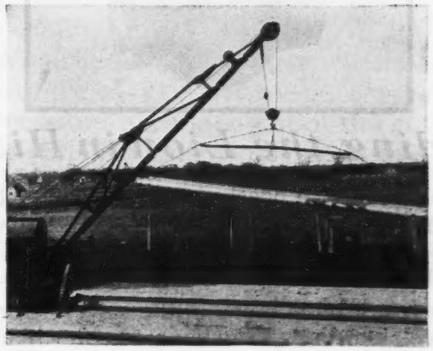
# The answer to the problem of pipe line protection

## *Machine Coated and Machine Wrapped Pipe*

One of the most serious problems confronting the oil and gas industry is the depreciation of pipe after installation through corrosion.

In the past the best solution to this problem has been the coating of pipe in the field by hand. This method, however, is always attended by the costly and variable factors of labor and unfavorable weather conditions.

But now you can, in your initial order for pipe, specify Hill, Hubbell & Co. mechanical coating and wrapping treatment, through any of the mills listed below. This treatment gives you the fullest assurance of extended pipe life under all sorts of conditions, perfected by an organization which has pioneered for 23 years in the development of protective coatings for metal.



*Kraft and Felt Wrapping Adds Protection to the Coating During Shipment*

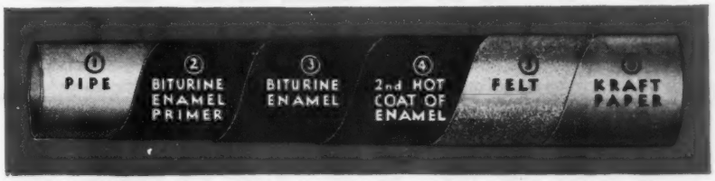
Pipe is delivered in the field, ready for weld and backfill, with uniform covering and protection. Every provision for the best possible applications of materials specified, and elimination of waste of material and labor, has been made.

*Hill, Hubbell & Co. Pipe Coating and Wrapping Plants*

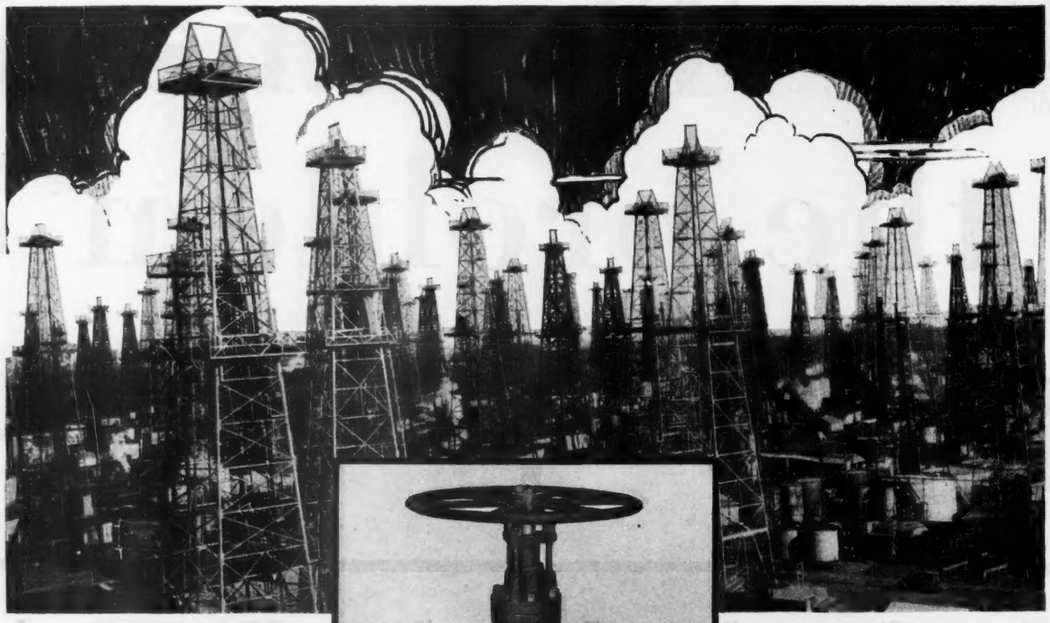
Hill, Hubbell & Co. pipe coating and wrapping plants are located in the following cities for the production of the manufacturers of line pipe listed.

CENTRAL TUBE COMPANY, Ambridge, Pa.; SPANG-CHALFANT & COMPANY, Ambridge, Pa.; YOUNGSTOWN SHEET & TUBE COMPANY, Indiana Harbor, Ind.; NATIONAL TUBE COMPANY, Lorain, Ohio; A. O. SMITH CORPORATION, Milwaukee, Wisc.; YOUNGSTOWN SHEET & TUBE COMPANY, Youngstown, Ohio.

GENERAL PAINT CORPORATION
HILL, HUBBELL & COMPANY DIVISION
CHICAGO NEW YORK TULSA HOUSTON DALLAS SAN FRANCISCO
OAKLAND LOS ANGELES PORTLAND SEATTLE SPOKANE




*Hill, Hubbell & Company Machine Coated and Wrapped Pipe is Your Best Insurance Against Corrosion*



## *Bearding the Lion in His Den*

**High pressures have a beastly way of becoming unruly at times. They want to get out in the worst way and proclaim their might. But with Darling Forged Steel Valves on guard the most treacherous offenders cannot get by.**

**Why not invest a trifle more in the safety which Darling Forged Steel affords? You have too much at stake to ignore this protection. *Catalogue on request.***

**Darling Valve & Manufacturing Company**

Williamsport, Pa.

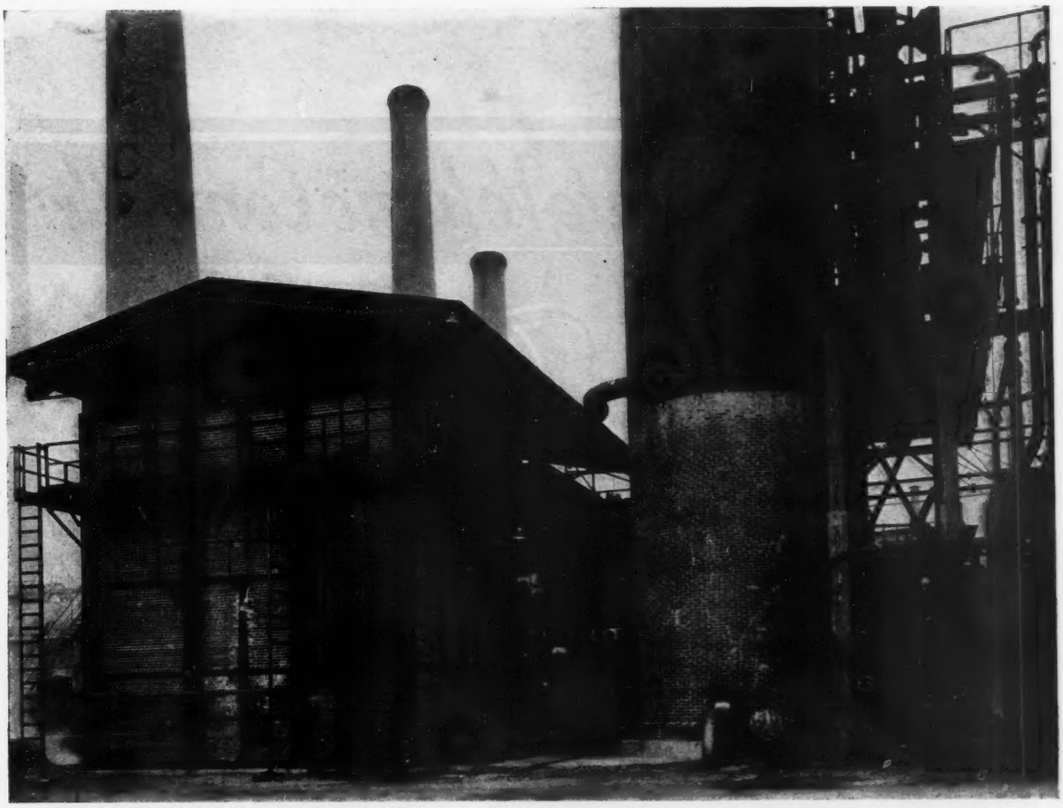
NEW YORK CHICAGO OKLAHOMA CITY HOUSTON

*Mid-Continent Distributors:*
Frick-Reid Supply Corp. Petroleum Supply Co.
International Supply Co.

*California Distributor:*
Petroleum Equipment Company, Los Angeles.

*Foreign Sales Manager:*
H. M. Hein, Room 1405, 152 West 42nd St., New York.

# DARLING
## GATE VALVES



# Efficient, Compact, Two Stage Distilling Units

The Foster Wheeler tube stills, heat exchangers and vacuum tower of a two-stage distilling unit are here shown. The compact and accessible arrangement of the equipment is illustrated. The tube stills for the two stages are placed under a single roof and have a common stack.

Heat exchangers are placed on the overhead vapor streams from both towers and on two side streams from the vacuum tower. In passing thru the heat exchangers the crude is preheated to approximately 400 deg. F.

This distilling unit has the capacity to handle 5,000 barrels per day of Coastal crude. It was designed and erected complete by the Foster Wheeler Corporation.

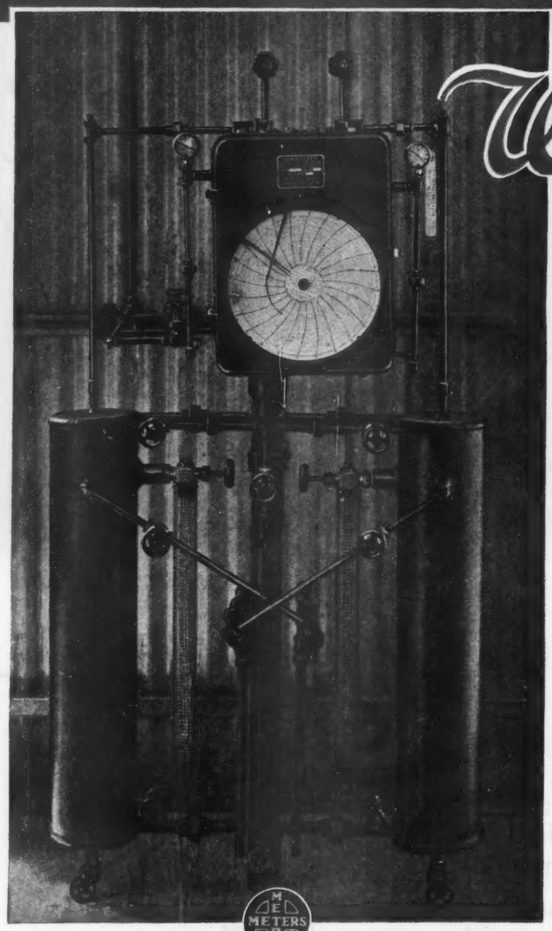
FOSTER WHEELER CORPORATION
165 Broadway, New York, N. Y.

*Branches in Principal Oil Centers*

*Foreign Associates:*
Foster Wheeler Limited; London, England.
Societe Anonyme Foster Wheeler; Paris, France.
Foster Wheeler Limited; Toronto-Montreal, Canada.

# FOSTER WHEELER

# METRIC Rate-Volume Controller



## What it is—

The Metric Rate-Volume Controller is designed to control the rate of flow of liquids, gas, or air through lines by maintaining a constant differential across an orifice installed between a pair of flanges in a line. This controller consists of a mercury float type differential recording gage in combination with an air control block which has been used for temperature, pressure, and humidity control for many years.

## How installed.

A complete installation consists of the rate volume controller which is installed in the same manner as an orifice meter, an orifice plate, connecting gage lines leading from both sides of the orifice to the controller, and an air supply line leading through the case of the instrument to a chamber above the diaphragm of a diaphragm valve installed in the line either on the up-stream or down-stream side of the orifice.

## Operation.

The diaphragm valve is maintained in the open position by a spring and is closed by air pressure acting upon the top of the diaphragm. The spring may be set up so that a pressure of five pounds per square inch on the top of the diaphragm will be sufficient to start closing the valve, and a pressure of 10 pounds would be required to completely close the valve, so that for any definite pressure between five pounds and ten pounds there is a definite position of the valve. The diaphragm valve is fully balanced so that its action is not influenced by flow conditions.

*Further information upon request*

FOR GREATER ACCURACY

AMERICAN METER CO
MEASUREMENT ENGINEERS
CUBIC FEET

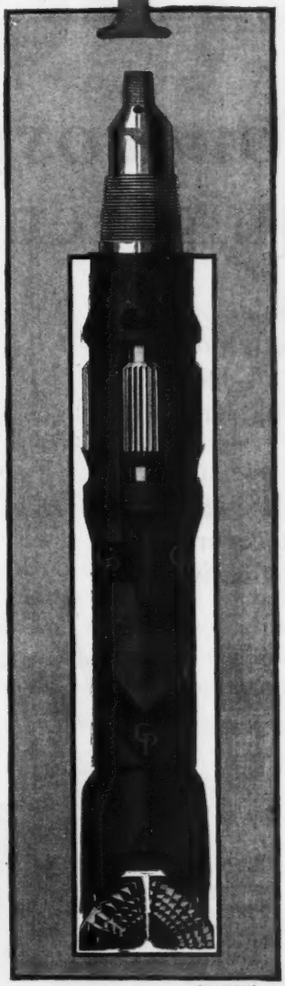
**Metric Metal Works**
ERIE *of* PENNSYLVANIA
AMERICAN METER COMPANY
INCORPORATED

*Sales Service*—WESTCOTT & GREIS, Inc., Dallas, Tulsa, Los Angeles

With the NEW CP "Tucone" ROCK BIT

## 9 POINTS OF SUPERIORITY

1. SAFETY—Extra large drop-forged spindle bearings. No cone bushings. One-piece bit head. One-piece reamer body. FISHING ELIMINATED
2. CIRCULATION—Fluid stream jets directly on bottom of hole. No side-wall hydraulicking. STRAIGHT HOLE
3. CLEARANCE—Over 34% of hole area is clear. "Balling up" eliminated. STRAIGHT HOLE
4. CONES AND SPINDLE BEARINGS—Cones run on extra large replaceable drop-forged spindle bearings. Stronger and thicker cone wall section due to absence of bushing. GREATER STRENGTH
5. REAMERS—Three units, properly spaced and located for accurate reaming. New type reamer bearing eliminates wear on reamer body. KEEPS GAUGE — ALWAYS!
6. ONE-PIECE BODIES—Both bit and reamer bodies are solid manganese steel. GREATER STRENGTH
7. REPLACEMENTS—Cone-and-bearing units and reamers easily and quickly changed. TIME SAVED
8. LOW MAINTENANCE—Body repairs eliminated. No wear on bit head or reamer body. MONEY SAVED
9. CONE SERVICE—New CP "Red Head" cutting cones can be refitted on your used bearings (only at authorized CP Service Stations) and guaranteed by CP to be as good as if a new bearing were used—at a great saving to you! ECONOMY



(PATENTED)

## CIRCULATION!

**Fluid stream jets directly on bottom of hole. No side-wall hydraulicking!**

## STRAIGHT HOLE!

Showing unobstructed fluid stream jetting directly on bottom of hole and promoting proper expulsion of loosened structure.

THE cutting cones are SEPARATED to a scientifically determined degree. Their position allows the fluid stream to jet directly on the bottom of the hole and promotes the proper washing of the loosened structure for expulsion. (See illustration above.) Due to this lack of obstruction of the fluid stream, there is no SIDE-WALL HYDRAULICKING, no undue pressure exerted upon the sides of the hole to cause side-hole washouts and lead the bit from its true, vertical course. CROOKED HOLES, DUE TO SIDE-WALL HYDRAULICKING, ARE ELIMINATED!

## CHICAGO PNEUMATIC TOOL COMPANY

General Offices: Chicago Pneumatic Bldg., 6 East 44th St., New York

OIL TOOL DIVISION OFFICES:

OKLAHOMA CITY, OKLA. 655 Santa Fe Ave., LOS ANGELES, CAL.

KEEPS GAUGE ...ALWAYS!

OT-12

That the use of CP "Tucone" Rock Bits will unquestionably result in lower drilling costs, we are ready and willing to prove in any way YOU say! An inquiry to any of the above addresses will receive immediate attention.

# ARMCO INGOT IRON

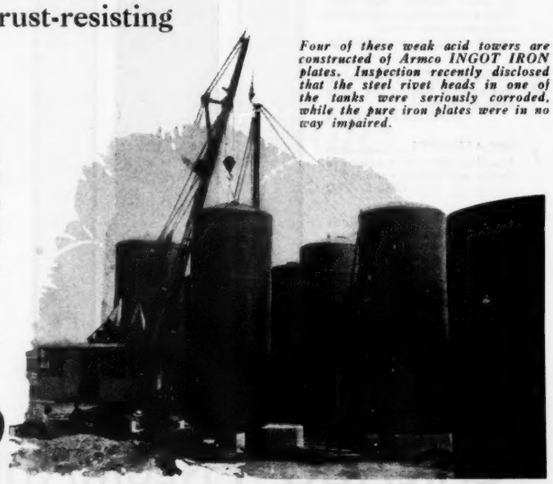
## the *durable low-cost* metal for refinery equipment

THERE need be no guesswork in selecting metal for your sheet and plate equipment. Adopt rust-resisting Armco INGOT IRON, the iron proved by time and exacting service.

Twenty-three years of widespread use under varying corrosive conditions have brought to Armco INGOT IRON the longest record of actual service of any low-cost, rust-resisting sheets and plates.

For oil storage tanks, agitators, weak acid towers, and other important equipment, you, too, will find Armco INGOT IRON the material of low cost per year of service. An Armco Development Engineer in the office nearest you is ready to co-operate. Call him in.

Hear the famous
ARMCO CONCERT BAND
every Tuesday night
WLW-700K.-Cincinnati
Ten to eleven E.S.T.



*Four of these weak acid towers are constructed of Armco INGOT IRON plates. Inspection recently disclosed that the steel rivet heads in one of the tanks were seriously corroded, while the pure iron plates were in no way impaired.*

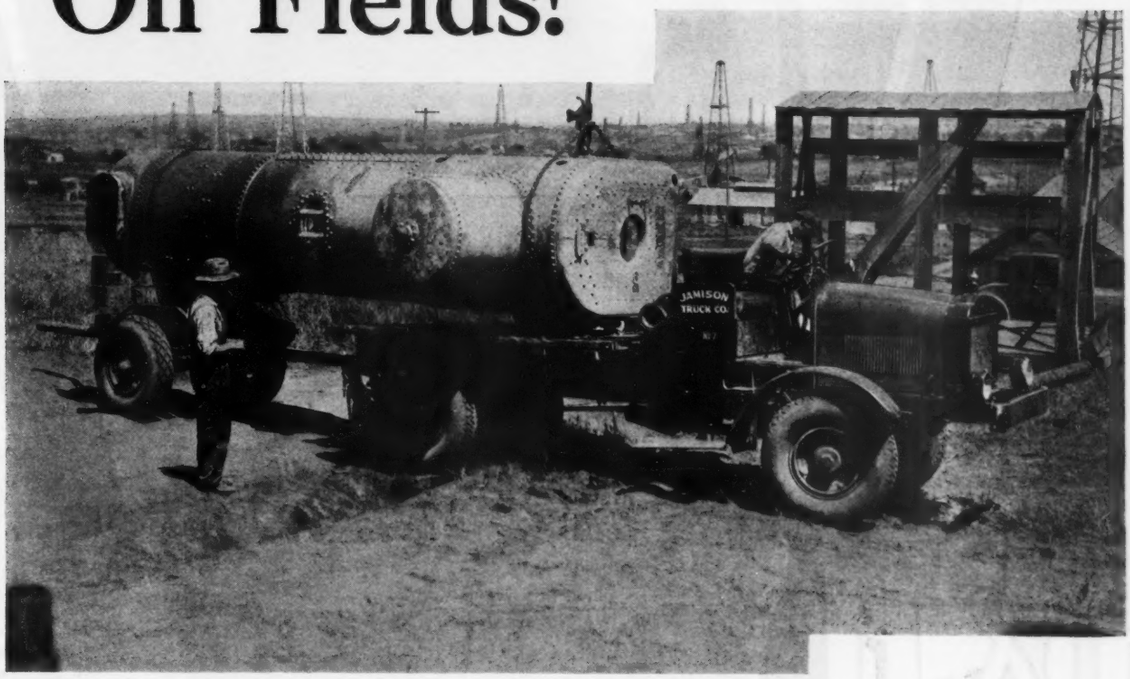
ARMCO

*Back of this familiar symbol is nearly thirty years' experience in the manufacture of special analysis iron and steel sheets and plates. When you want a rust-resisting, low-cost metal be sure to see this triangle and the words, "Armco INGOT IRON." It is your assurance of dependable, economical service.*

THE AMERICAN ROLLING MILL COMPANY
*Executive Offices,* Middletown, Ohio
*Export:* The ARMCO International Corporation

DISTRICT OFFICES: Chicago, Cincinnati, Cleveland, Detroit, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco

# FWD Trucks are Sure-footed —Haul heavy loads in Oil Fields!



PULLING through the soft — sandy — muddy oil fields under heavy loads has long been the assignment of FWD Trucks. And rightly so—for the FWD is unlike the ordinary truck since *it distributes the load and power to all four wheels.* Naturally it is more adaptable to oil field service.

In the FWD Truck power is transmitted through the propeller shafts, bevel gear drives and full floating axles directly to the spot where it is needed. This is alone an FWD feature. It means better traction — more economical service to you . . . Let our oil field representative give you specific figures on its oil field economy. Write for them today.

FWD Trucks drive and brake on all four wheels. They are made in sizes from 2 to 10 tons . . . four wheels . . . six wheels and truck tractor.

**The Four Wheel Drive Auto Co.**
**Clintonville, Wisconsin**

*Canadian Factory*
Kitchener, Ontario

FWD hauling ten joints of 14 inch pipe from Casper to Ferris. Note the loose ground condition.

FWD

BACKED BY NATION WIDE SERVICE

P&H

*"Jammer" loading genuine Northern White Cedar Poles from skids to sleds, Page & Hill Co. winter woods operations in Northern Minnesota.*

# *Dependable* POLES

THE long-established reputation of "P & H Process" Poles for reliable service and long life is the result of four factors:

—extraordinary care in the selection of timber,
—uncommon skill in each manufacturing operation,
—an unusually exacting inspection system,
—and the exclusive "P & H Process" of Butt-Treatment.

***Dependable*** **Shipping Service** Complete stocks, strategic location of plants, prompt loading and efficient car tracing make P & H Shipping Service an outstanding achievement.

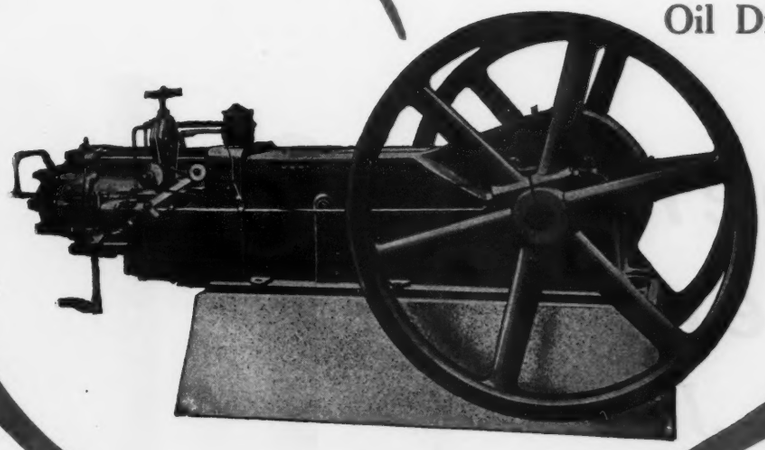
*"Still in the Lead"*

## PAGE AND HILL CO.

MINNEAPOLIS, MINN.

Kansas City, Mo., 201 Mainstreet Bank Bldg.
Omaha, Neb., 711 Electric Bldg.
Chicago, Ill., 19 So. La Salle St.
Dayton, Ohio, 854 Reibold Bldg.
New York, N. Y., 50 Church St.
Boston, Mass., 733 Public Service Bldg.

# FRANKLIN
## VALVELESS
### Oil Drilling Engine
## Type OF



# GROWING POPULARITY

From Michigan to Mexico (and points between) the growing popularity of the Franklin Valveless OF Oil Drilling Engine is proven by the fact that in many cable tool fields it is used almost to the exclusion of the other prime movers. Its economy, its ability to handle, with ease, all drilling and incidental loads, its freedom from shut-down time—its simplicity and exclusive design and low weight—all are factors—but its popularity depends on the blending of all these qualities (and others space does not permit to outline) into the OF. We invite the investigation of hard-boiled, critical buyers and users of power—just give us a chance to prove our case—that's all we ask. Send inquiries direct or to our distributors.

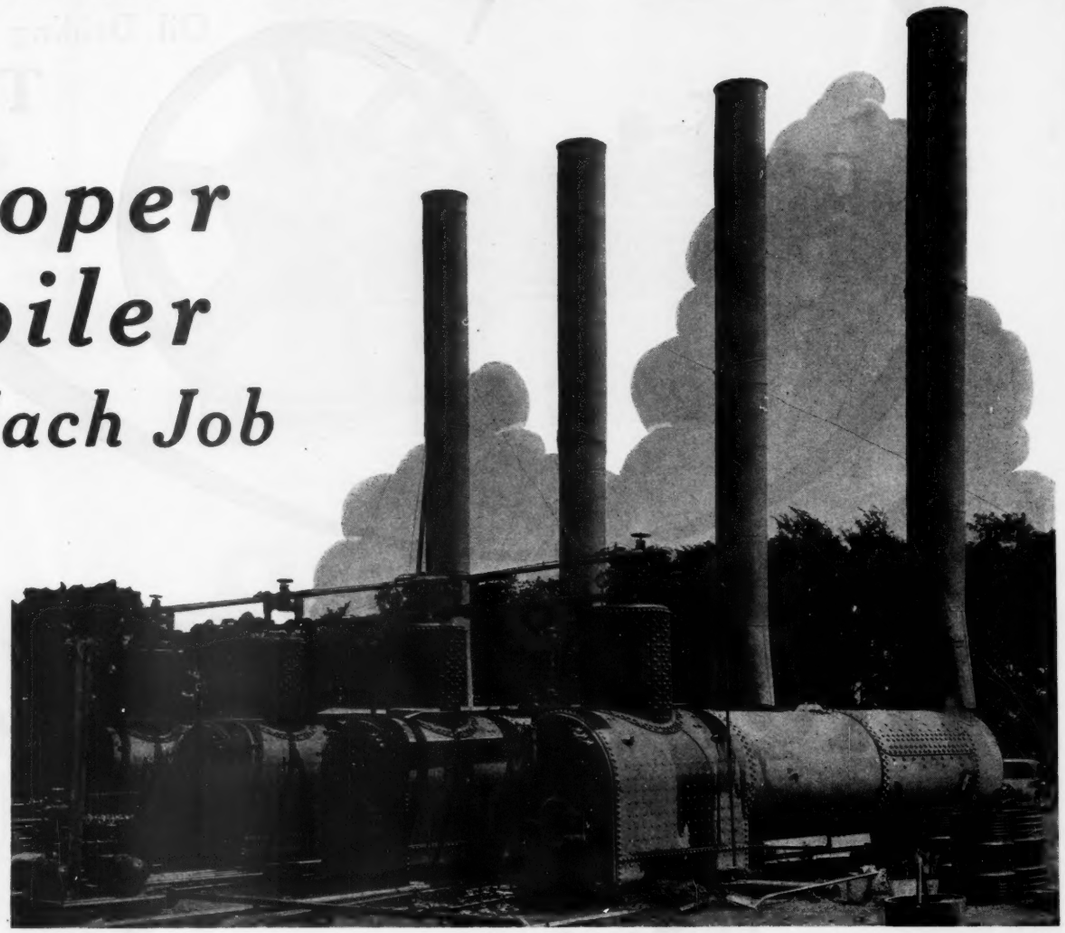
**DISTRIBUTED BY OIL WELL SUPPLY Branches Everywhere**

**FRANKLIN VALVELESS ENGINE COMPANY**
**Franklin, Penna.**

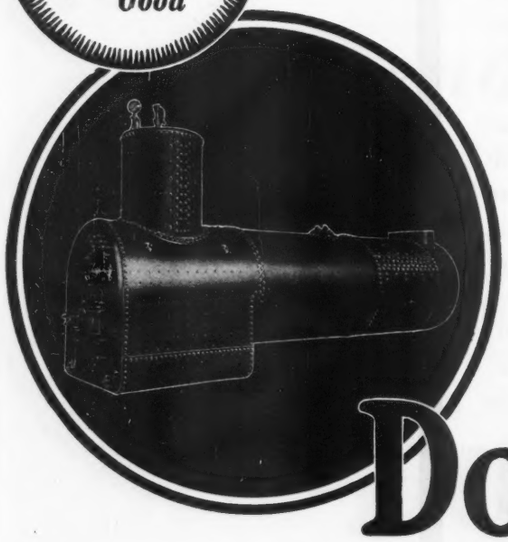
FIRST CHOICE FOR EVERY BOILER NEED

*The*

# *Proper Boiler for Each Job*



Donovan Boilers *are* Consistently Good



DONOVAN BOILERS are built in a variety of sizes and pressures so that the customer may readily and easily pick just the right boiler for each particular task.

25 H.P. — 30 H.P. — 35 H.P. — 50 H.P. — 150 pounds pressure — A.S.M.E. Code

70 H.P. — 85 H.P. — 175 pounds pressure — A.S.M.E. Code

85 H.P. — 200 pounds pressure — A.S.M.E. Code

115 H.P. — 250 pounds pressure — A.S.M.E. Code

Our dealers and distributors carry ample stocks. Customers can get DONOVAN BOILERS in a hurry from convenient yards.

Back of these are the large stocks of finished boilers carried at the factory.

We offer service as well as good boilers.

*Manufactured by*

DONOVAN BOILER WORKS, INC,

PARKERSBURG, W. VA.

NEW YORK OFFICE—30 Church Street

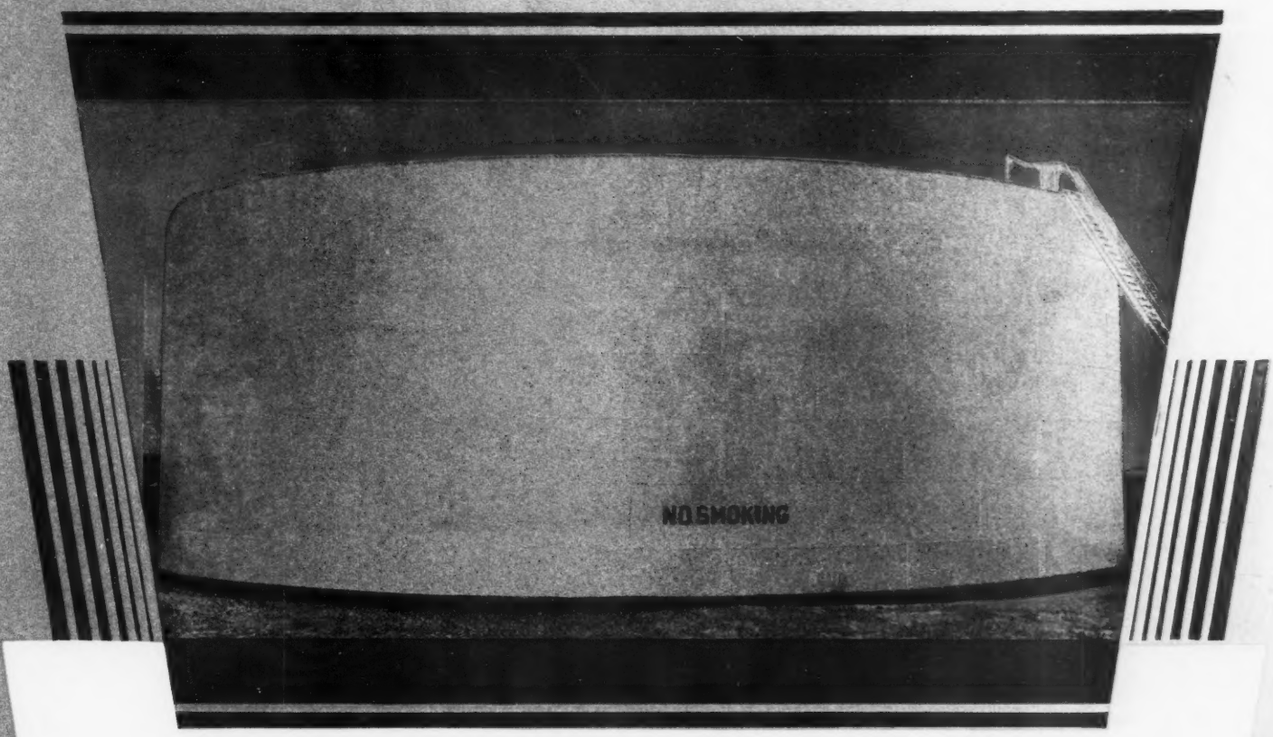
FRICK-REID SUPPLY CORPORATION
*Mid-Continent and Eastern Distributors*

GREAT NORTHERN TOOL & SUPPLY CO.

MIDLAND IRON WORKS
*Montana Distributors*

# DONOVAN BOILERS

THE COAT OF METAL PROTECTION




# A Paint that can't be gassed

Aluminum paint withstands gas fumes, even hydrogen sulphide. Here is real tank protection. Aluminum paint transforms the appearance of your tank farms with its silvery coating. They look clean—sparkling. And this coat of beauty is more than "skin deep".

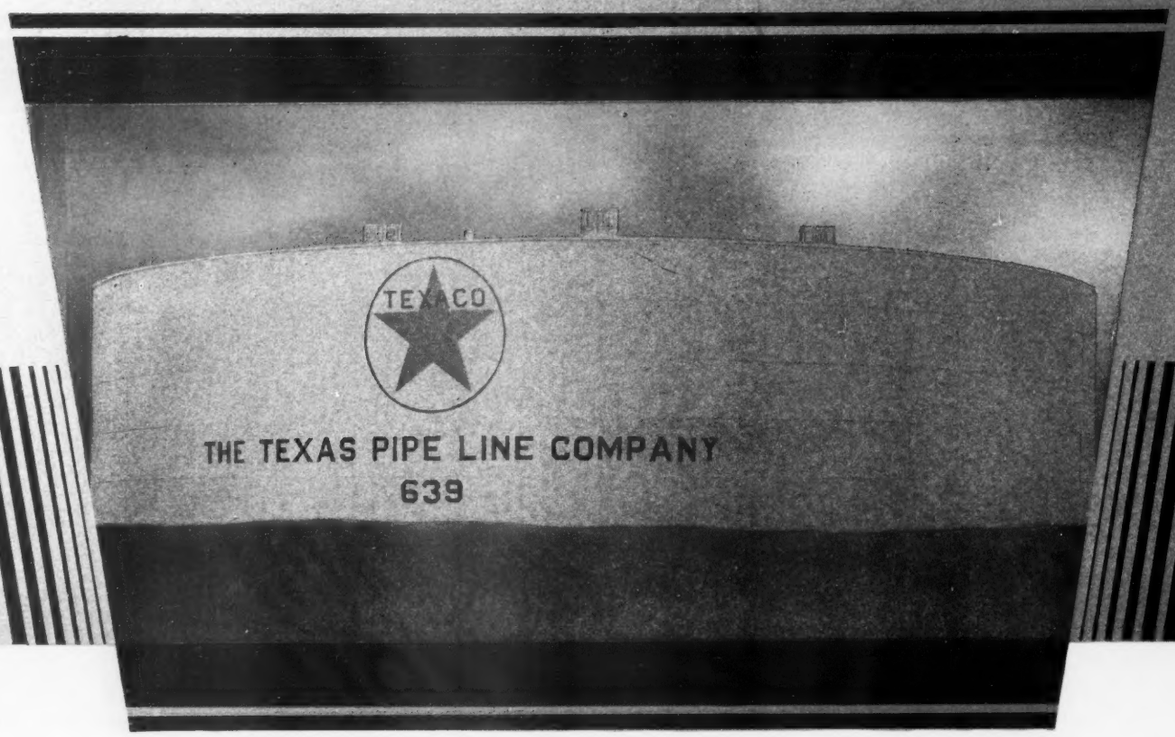
Aluminum paint is made by mixing the pigment, of Alcoa Albron, with a suitable vehicle. An analysis of an aluminum painted surface gives you the story in short order. The minute flakes of aluminum in the pigment have overlapped, formed a coat of metal protection.

Aluminum paint offers you marked economy in covering qualities. The booklet, "Aluminum Paint, the Coat of Metal Protection", gives you many interesting facts about this remarkable paint. Write for it.

ALUMINUM COMPANY *of* AMERICA; 2417 Oliver Building, PITTSBURGH, PA. Offices in 19 Principal American Cities.

## ALCOA ALBRON
POWDER FOR
## ALUMINUM PAINT

ALCOA ALUMINUM




# Aluminum Foil keeps Heat off — keeps Profits in

Reflecting the sun's rays, keeping out heat, aluminum foil brings an entirely new kind of protection to oil storage tanks.

In an actual test by an important oil company in west Texas, the roof only of an 80,000 barrel tank was coated with Alcoa Aluminum Foil. The maximum temperature of the gas in this tank was 25 degrees below the maximum temperature in an exactly similar tank which was not coated.

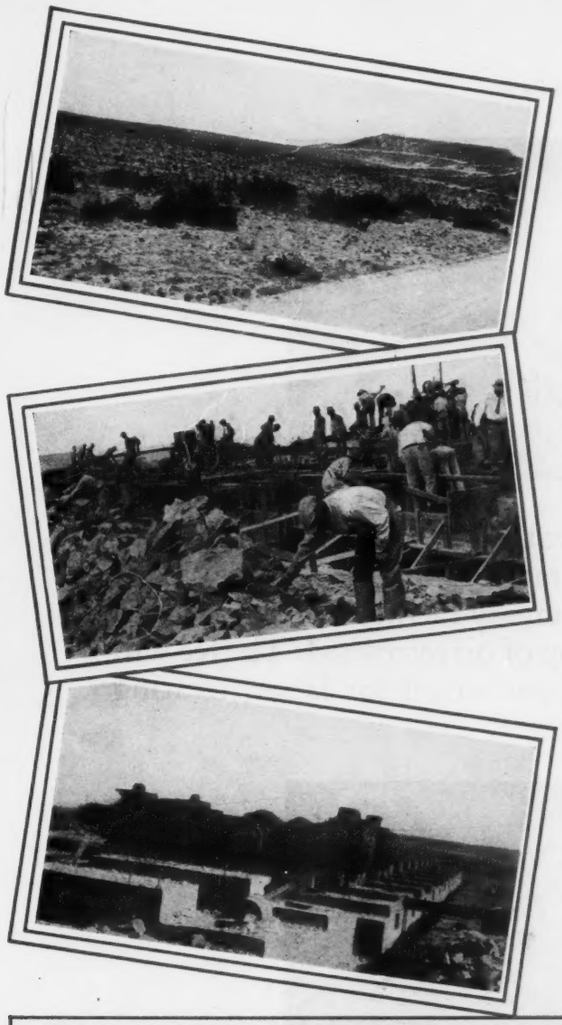
The brightly polished surface of Alcoa Aluminum Foil reflects light and at the same time reflects heat. It is a real barrier to heat rays, preventing profits from evaporating into thin air.

It is no more difficult to spread Alcoa Aluminum Foil than it is to hang wall paper. The cost is only a little higher than painting. Its great durability alone quickly pays for the job. A foiled surface is practically permanent.

The oil industry is using Aluminum Foil with excellent result on top and sides of storage tanks, on tank cars and to retard corrosion on pipe lines. We will gladly send you full information on the application, cost and many uses of Alcoa Aluminum Foil for the oil industry. ALUMINUM COMPANY of AMERICA; 2417 Oliver Building, PITTSBURGH, PENNSYLVANIA. Offices in 19 Principal American Cities.

## ALCOA ALUMINUM
## ROLLED INTO FOIL

ALCOA



# Look in the NEW PLANTS for CLARK *Double Acting* "SUPER 2s"

**The correctness of CLARK design—the staunchness of CLARK construction—the efficiency and economy of the CLARK "Super 2" in both single and double acting types—have been so widely demonstrated that in new plants you usually find CLARK engines.**

**The photographs show the construction of the Humble Oil & Refining Company's gasoline plant in the Yates Field, near McCamey, Texas—with two 80 H. P. Clark 2-cycle machines and twelve 200 H. P. Double Acting "Super-2s". Three more 200's are now being installed.**

## CLARK BROS. COMPANY

OLEAN, N. Y.

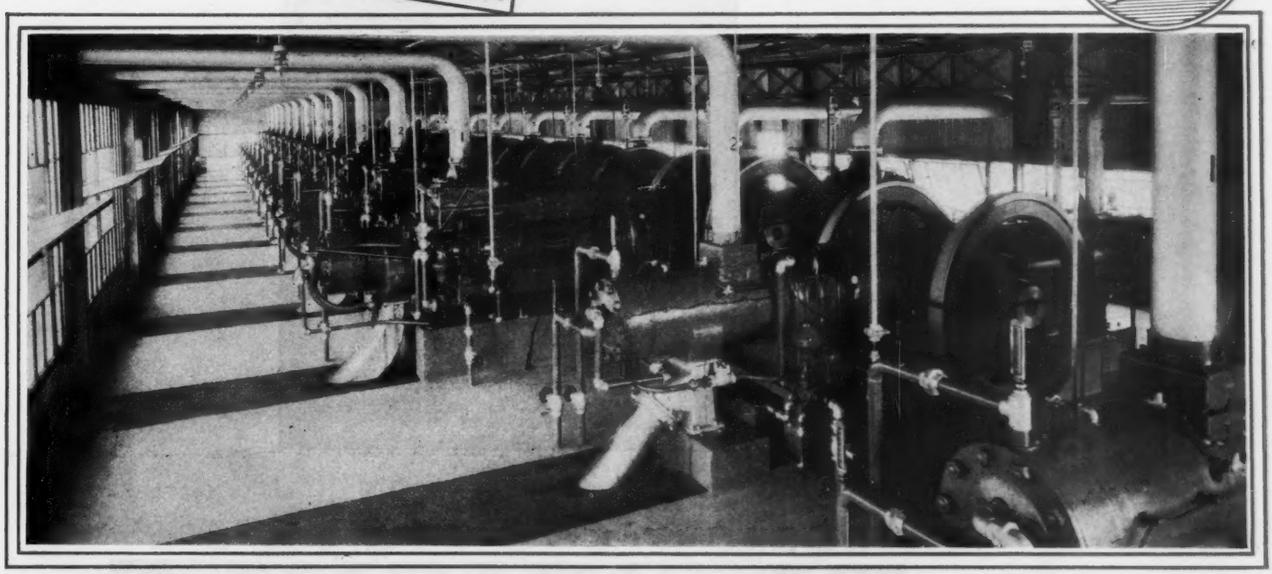
**Export Office: 150 Broadway, New York**

**Mid-Continent Sales Offices: Tulsa and Ft. Worth.**

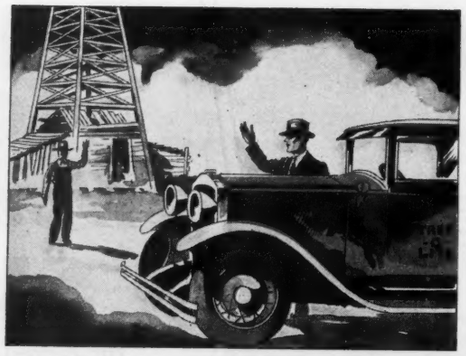
**Warehouses: Tulsa, Okla.; McCamey and Sweetwater, Texas; Artesia, N. M.**

**California: Smith, Booth, Usher Co., 228 S. Central Ave., Los Angeles.**

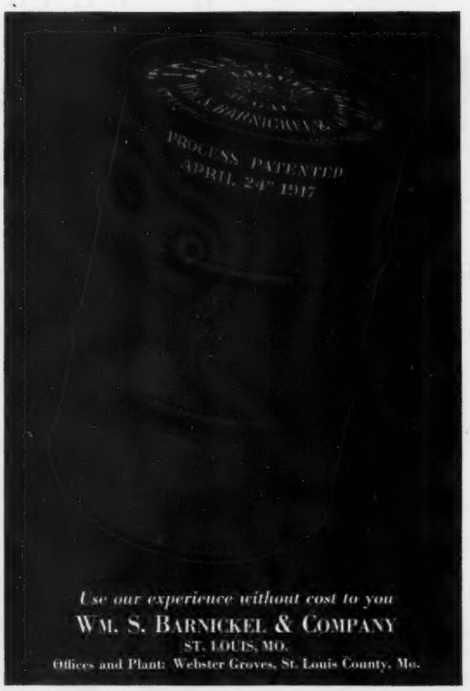
Compressors and Gas Engines



# CLARK

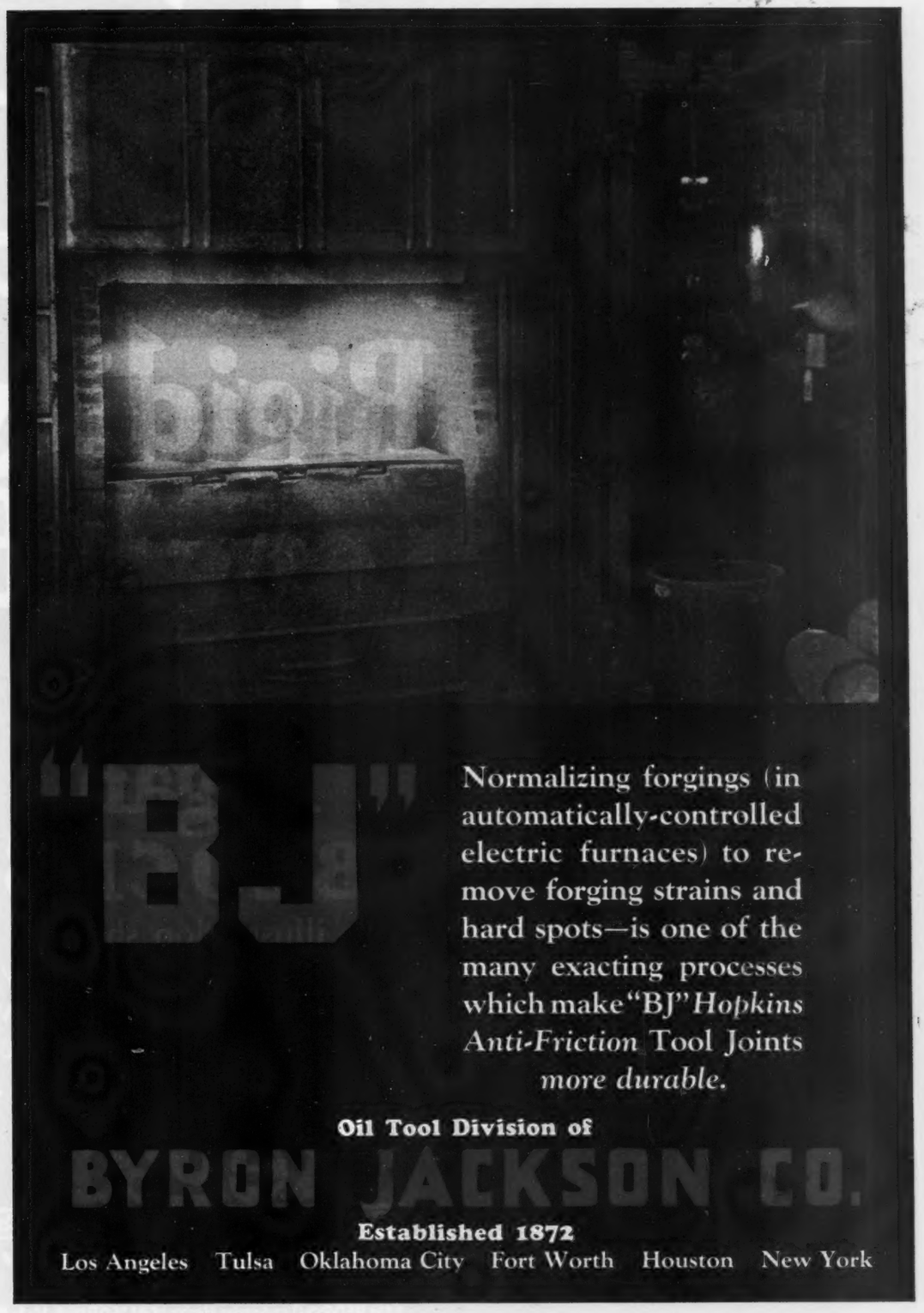


When a well or a lease is afflicted with water in the oil, call in the Cut Oil Specialist—the Tret-O-litE representative. The diagnosis will be based on unequalled experience and laboratory facilities. The cure will be certain and complete, with every drop of oil recovered. The fee will be very low, not more than a few cents per barrel for labor, treating agent and equipment.


PROCESS PATENTED
APRIL 24th 1917
Use our experience without cost to you
WM. S. BARNICKEL & COMPANY
ST. LOUIS, MO.
Offices and Plant: Webster Groves, St. Louis County, Mo.

Tret-O-litE

Reg. U. S. Pat. Off.


"BJ"
Normalizing forgings (in automatically-controlled electric furnaces) to remove forging strains and hard spots—is one of the many exacting processes which make "BJ" *Hopkins Anti-Friction* Tool Joints *more durable.*
Oil Tool Division of
BYRON JACKSON CO.
Established 1872
Los Angeles Tulsa Oklahoma City Fort Worth Houston New York

# Speed. Rigidity. Long Life

## Regan BLOCKS

The illustration shows a 6 Sheave . . . Type B Crown Block and a 76" 5 Sheave ...Type 3B Traveling Block with a 10-line string up...

## Regan

Forge & Engineering Co.

Oil Field Equipment

Plant and General Offices:

SAN PEDRO (Los Angeles Harbor) CALIFORNIA, U. S. A.

New York Office
75 West Street
Wm. Braat, Manager

Mid-Continent Office
Dallas, Texas
501-2 Marvin Building

*Representatives*

Oklahoma City, Okla.
2420 W. 21st St.

Pecos, Texas
P. O. Box 444

Maracaibo, Venezuela
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Care Amer Consul

# The International Supply Co.

## *of* Tulsa, Okla.

## *has been appointed*

# Exclusive Distributor

of TICO and ACME steam and gas engines, slush pumps, powers, rotaries and drawworks, for the states of Oklahoma, Kansas and Northwest Texas. They will carry our units in stock at their various stores and are prepared to completely service all machinery now in operation. We ask that you kindly let them have any inquiries you may have for these various products.

## The TITUSVILLE IRON WORKS CO.

Division of Struthers Wells-Titusville Corp'n

TITUSVILLE, PA.

HILLS-McCANNA

SOCKETS
*and*
TUBES

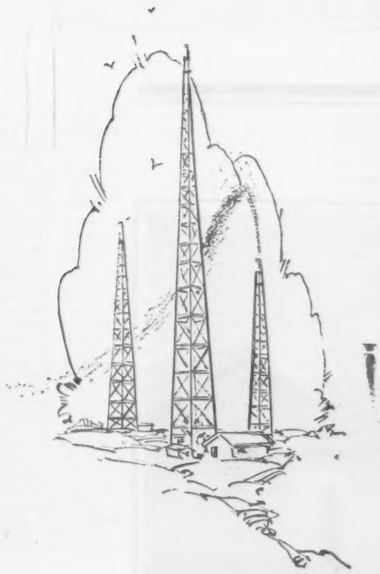
*As Important as the Recorder itself*

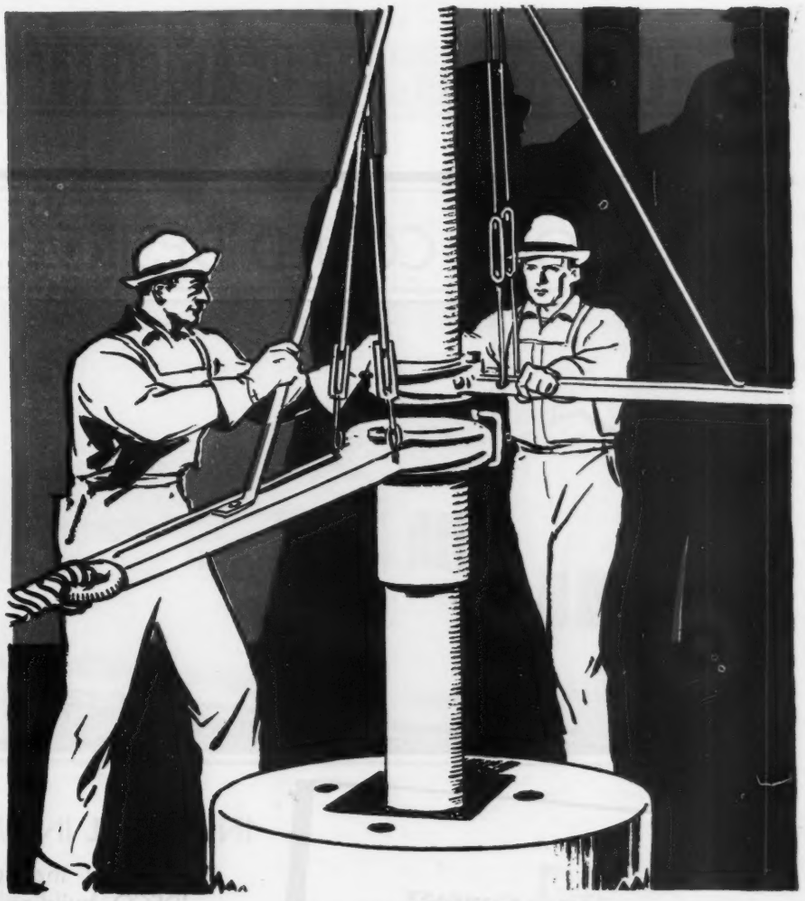
Hills-McCanna Wells and Tubes of standard sizes and materials are carried in stock for Immediate shipment. Special wells can be machined to order on short notice from any commercial alloy.

Prices on application.

HILLS-McCANNA CO.
2351 Nelson St., Chicago

ANY TYPE FROM ANY METAL





# SIMANCRO!

**A High Tensile Seamless Casing—made from an Alloy Steel which combines the essential requisites of strength and toughness—VITAL wherever the hazards of deep drilling are encountered.**

**Over a million feet have already been used in the Oklahoma City and Kettleman Hills Pools without a single failure.**

**"SIMANCRO" is an exclusive product of this company—its use is your best insurance against casing trouble. Available in 95,000# and 110,000# minimum tensile grades.**

## SPANG, CHALFANT & CO., INC.

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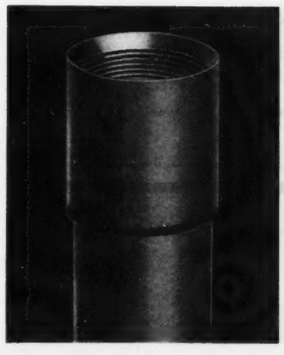

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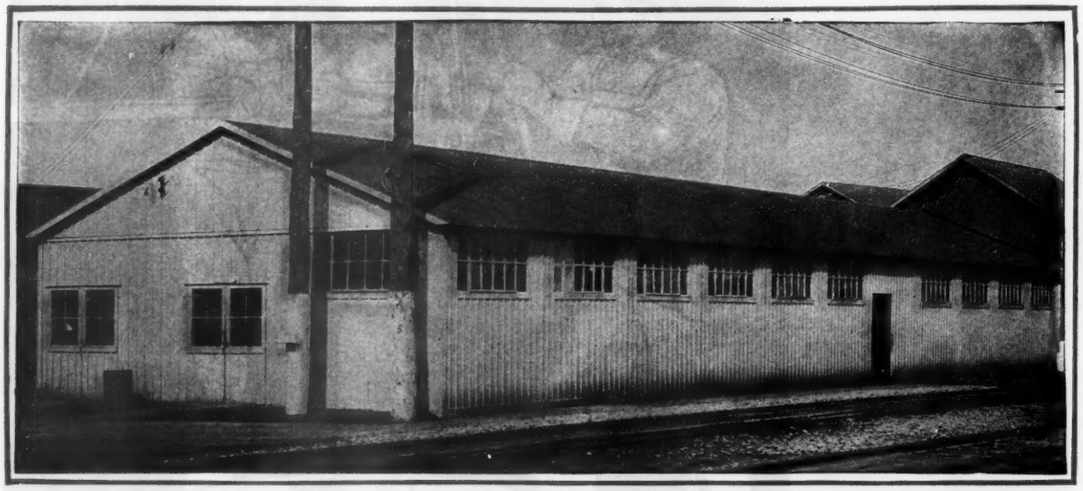

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# The Oil and Gas Journal

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Refinery Section Starts on Page 128

# Unexpected Increase in Production

**Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.**

## New Wells in Flush Pools Responsible. Californians Plan Further Curtailment in Production and Refinery Runs

By James McIntyre

**Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.**

An increase of 33,144 barrels per day in the production of crude oil in the United States was registered last week over the record of the week before. Of this increase, 19,430 barrels is noted in Oklahoma due to a greater output in the Oklahoma City, East Earlsboro and Earlsboro Pools. The Gulf Coast was responsible for 9,389 barrels, largely from the Refugio Field. The Texas Panhandle was up 3,736 barrels and the West Texas Field about 2,000 barrels.

The upward trend of production was a great disappointment to all oil men. It came as a surprise, as there is a genuine effort being made to curtail the production of unnecessary oil.

A number of big new wells in Oklahoma City were responsible for a part of the increase and the same may be said of the Earlsboro Pools.

It will from now on be increasingly difficult to keep production down in Oklahoma City, as wells that have been shut in altogether are permitted to join the producing wells because of the expiration of their shut-in time. It will be necessary to cut deeper into the production of that wonderful field if it is to be kept down to pipe line requirements.

Gulf Coast operators have done nothing to keep production down and that field is producing more oil at this time than ever before in its 29 years of history. It passed the 200,000-barrel mark last week. The attitude of Gulf Coast producers, most of whom are taking part in curtailment movements in other fields in Texas and Oklahoma, has often been the subject of comment in Mid-Continent oil centers. There were more new pools opened in the Gulf Coast Field last year than in any other producing division and one of these, Refugio, has become one of the leading pools in the country.

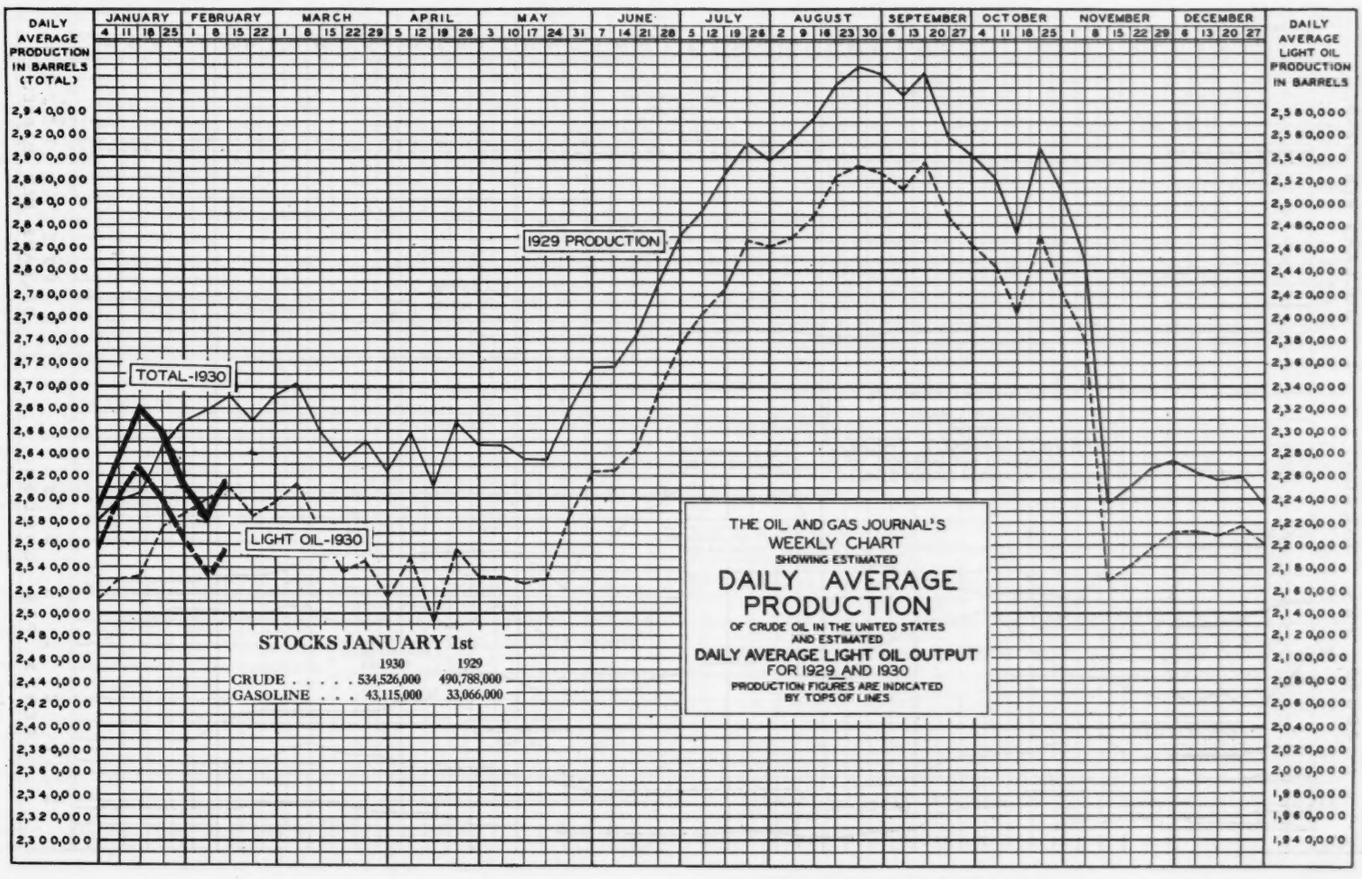
California operators are working out plans for reducing the production of that State to 609,000 barrels per day, and decreasing refinery runs. It may take several weeks to complete the program. Meanwhile California may show a large increase in production in the next two weeks due to the opening of certain flush fields for the purpose of learning their potential production.

### PRODUCTION IN THE UNITED STATES

**Estimated daily average production of light and heavy gravity oil in the United States for week ended February 8 and a comparison with the previous week follows:**

| | Feb. 8 | | Feb. 1 | |
|---|---|---|---|---|
| | Light | Heavy | Light | Heavy |
| **Oklahoma—** | | | | |
| Oklahoma City | 69,675 | ..... | 57,165 | ..... |
| St. Louis-Pearson | 42,100 | ..... | 42,805 | ..... |
| Seminole | 229,745 | ..... | 217,660 | ..... |
| Northern Miscellaneous | 231,740 | ..... | 237,210 | ..... |
| Southern Fields | 57,725 | ..... | 56,715 | ..... |
| Total Oklahoma | 630,985 | ..... | 611,555 | ..... |
| **West Texas—** | | | | |
| Hendricks | 88,250 | ..... | 87,905 | ..... |
| Yates | 141,440 | ..... | 141,367 | ..... |
| Remainder | 112,850 | ..... | 111,282 | ..... |
| Total West Texas | 342,540 | ..... | 340,554 | ..... |
| North Louisiana | 32,440 | 5,150 | 31,355 | 5,140 |
| Arkansas | 17,620 | 41,080 | 17,705 | 39,545 |
| North Central Texas | 134,543 | ..... | 131,420 | ..... |
| Texas Panhandle | 91,601 | ..... | 87,865 | ..... |
| East Central Texas | 22,810 | ..... | 21,957 | ..... |
| Kansas | 110,215 | ..... | 110,210 | ..... |
| Total Mid-Continent Area | 1,382,754 | 46,230 | 1,355,621 | 44,685 |
| Gulf Coast | ..... | 203,416 | ..... | 194,027 |
| Southwest Texas | ..... | 66,652 | ..... | 65,649 |
| Eastern | 139,000 | ..... | 140,000 | ..... |
| Rocky Mountain Area | 74,709 | ..... | 78,635 | ..... |
| **California—** | | | | |
| Santa Fe Springs | 163,000 | ..... | 168,000 | ..... |
| Long Beach | 110,000 | ..... | 107,000 | ..... |
| Huntington Beach | 41,500 | ..... | 41,500 | ..... |
| Elwood | 36,500 | ..... | 35,000 | ..... |
| Ventura Avenue | 51,000 | ..... | 51,500 | ..... |
| Seal Beach | 29,500 | ..... | 29,000 | ..... |
| Remainder of State | 170,000 | 104,500 | 170,000 | 105,000 |
| Total California | 601,500 | 104,500 | 602,000 | 105,000 |
| Total United States | 2,197,963 | 420,798 | 2,176,256 | 409,361 |
| Grand Total | 2,618,761 | | 2,585,617 | |

→ **Total Increase, 33,144 Bbls.; Light Oil Increase, 21,707 Bbls.** ←



# Oklahoma Market Continues Inactive

## Prices on Higher Gravity Fuel Oils Lower. Considerable Confusion as to Terms of Gasoline Contracts with Jobbers

By C. O. Willson

The past week in the Oklahoma (Group 3) and the Mid-Continent refined market generally was another seven-day period of inactivity in the spot market. This condition has been the rule since the first of the year and many market observers now believe this situation will continue through February unless there is some outstanding development in the crude price situation.

Lower prices for the higher gravity fuel oils constituted the only important change of the week in the Oklahoma market. This is a reflection of excess supplies of material suitable for furnace oils. There was a strong demand for these higher gravity fuels through the fall and early winter but this demand has slowed up during the past month. The availability of crude oils from the Southwest has been a factor in this situation, large quantities of these crudes having been sold to buyers who have been purchasing fuel oils with a gravity ranging from 24 to 32. The large production of the regular grades of furnace oil distillates has also tended to weaken the high gravity fuel oil market and with the consuming season nearing an end there has been a marked tendency to force sales with lower prices.

It is not believed that this weakness in fuels will continue over any great length of time. The quantity of crude oil available from Southwest Texas fields has already been curtailed through action of pipe line companies who are buying the oil for refinery operation. The demand for distillates, gas oil and high gravity fuel oils for cracking stock at refineries will prevent any extended collapse in prices and this factor is already making itself felt at several refineries.

### Improved Tone

Some buyers and sellers have noted a slightly improved tone in the domestic gasoline and kerosene market. This is based on the fact that some of the lowest priced material has been absorbed and there is less evidence of distress selling. The purchase since the first of the month of approximately 1,000,000 gallons of kerosene in North Texas for export delivery improved the situation there and this in turn has been reflected in the Oklahoma tone although the general range of prices is unchanged. Natural gasolines were stronger and advanced fractionally in price.

Those quoting the higher prices for gasoline and kerosene have not noted any change in the spot demand. Several refiners state that their gasoline contract shipments to jobber and to their own stations have improved, a development which is explained as being due to weather conditions. There has been some jobber buying of both gasoline and kerosene for storage.

### Contract Situation

Since the first of the year there has been considerable discussion of gasoline contracts among refiners and jobbers. It is apparent that confusion exists in regard to what should be the terms of these contracts for 1930. Reports of the relatively few contracts that have been closed show that there is little uniformity as to terms.

Refiners have endeavored to renew contracts with Middle Western jobbers on the same basis as last year. In general these contracts were based on published tank car prices plus freight with a minimum guarantee of 4 cents under the tank wagon price or 5 cents under the service station price at point of delivery. Some contracts provided for a 50-50 split of any spread of more than 5½ cents under the tank wagon price.

Objections are heard from the jobbers as to the use of the so-called "weighted average prices" for gasoline in Oklahoma as a basis for the contracts. It is maintained that these weighted average prices as furnished by the larger refiners are too high to be representative of the spot market in tank car sales. Apparently many of the refiners agree that this viewpoint of the buyers is sound for they are either using other published prices as a basis for their con-

(Continued on Page 144)

### REFINED MARKET BAROMETER

Additional revisions downward were made in gasoline tank wagon and service station prices in large areas throughout the United States during the past week narrowing the wide margins which have prevailed due to the weak refinery tank car market. On the whole the latter prices were steady over the week with some indications of improvement at points where prices have been the lowest. Natural gasolines were stronger in the Mid-Continent with no change in California. The kerosene demand has improved in some areas but there were no changes in refinery prices except in Pennsylvania where quotations on several grades are lower. Large supplies of furnace oils and refinery market weak. High gravity fuel oil and gas oil weak in Middle West. No important changes in lubricating oils with more active demand for some stocks.

**Mid-Continent**—Natural gasolines fractionally higher in all areas. Less distress refinery gasoline and kerosene being offered. Higher gravity fuel oils and distillates weak and prices lower. No change in lubricants and wax.

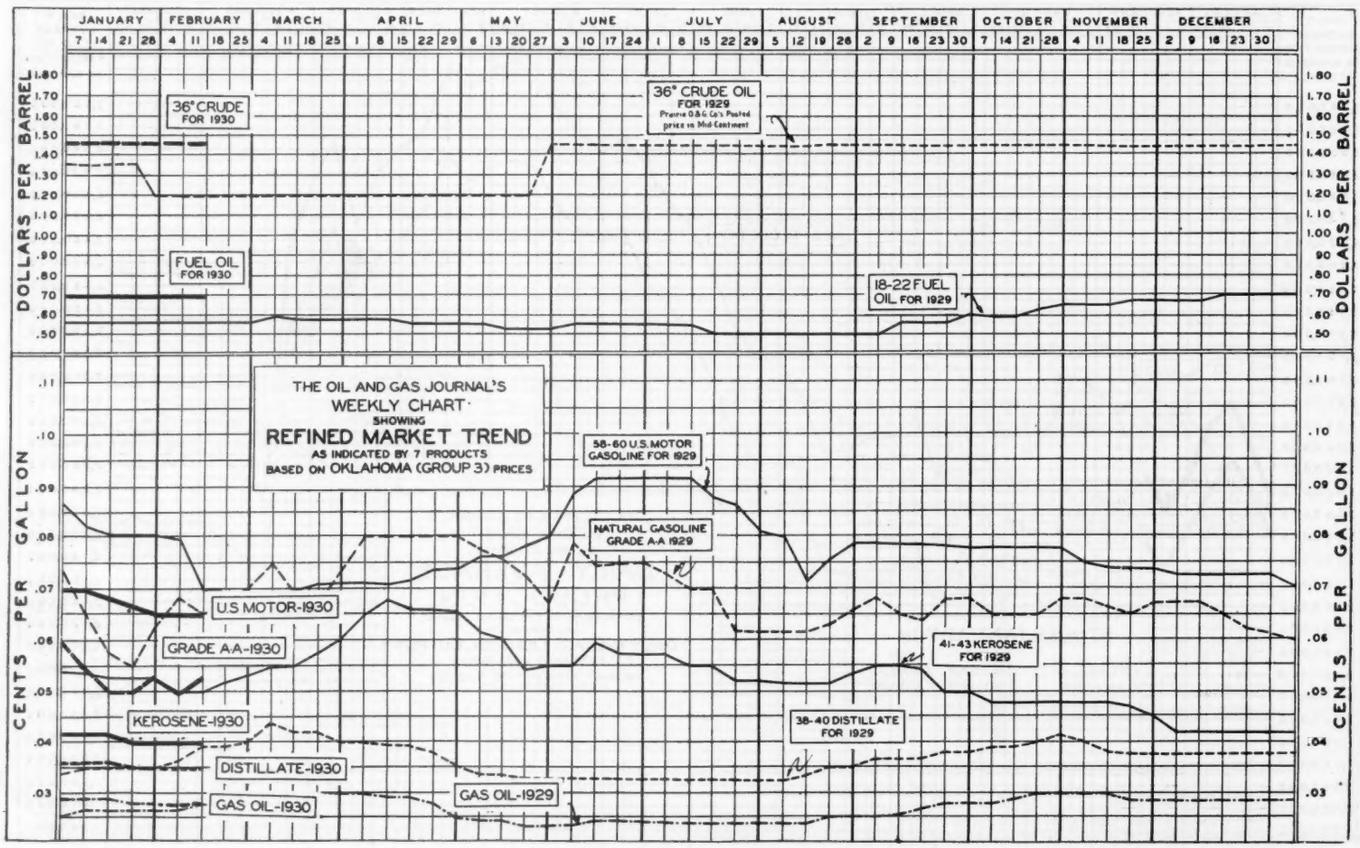
**East Coast**—No important changes in prices. Additional reductions in tank wagon and service station prices and availability of California gasoline disturbs refinery market. Fair demand for furnace oil and kerosene. Fuel oil, gas oil and Diesel oil steady. Good demand for pale and red oils. Wax demand less active.

**Pennsylvania**—Reduction in several grades of kerosene. Gasoline demand slow. Fair demand for bright stocks, steam refined stocks and high viscosity neutral oils.

**Gulf Coast**—Pale and red oils firm although demand not so active. Gasoline weak.

**Chicago**—Better contract movement of gasoline and less distress material offered on spot market. Better demand for kerosene. Furnace oils weak. No change in gas oils. High gravity fuel oils lower.

**California**—Better feeling in market as result of plan to curtail refinery output in line with demand. Low prices offered for gasoline for movement to East Coast.



# Mid-Continent Gasoline by Pipe Line

## Barnsdall Completing Plans for Line from Okmulgee, Okla., Refinery to Milwaukee. Other Projects Under Consideration

By C. O. Willson

The long discussed gasoline pipe line from the Mid-Continent refining area to the consuming territory of the Middle West terminating in the Great Lakes region, has taken definite form in the action of the Barnsdall Corp., holding company for the Barnsdall companies, which is completing plans for laying a 6-inch line from its Okmulgee, Okla., refinery to Milwaukee, Wis.

The line is the third major project providing for the pipe line transportation of gasoline to be announced within the past few weeks. Late last year the Standard Oil Co. of New Jersey announced plans for changing the line of the Tuscarora Pipe Line Co., a subsidiary, from crude oil to gasoline. This line extends west from the Baytown, N. J., refinery of the parent company across New Jersey and Pennsylvania, terminating at the Ohio-Pennsylvania boundary.

Later the Susquehanna Pipe Line Co. was incorporated by the Sun Oil Co. as a subsidiary. This company proposes to build a pipe line north from its Marcus Hook, Pa., refinery, terminating along the New York barge canal. Another line will extend west across Pennsylvania from the Marcus Hook refinery, terminating at the Ohio-Pennsylvania boundary.

Since the announcement of these two lines in the eastern territory there has been wide discussion of the feasibility of a gasoline line from the Mid-Continent refining area to Mississippi River points or the Great Lakes. It is known that at least four of the larger refinery operators in the Mid-Continent have been conducting investigations with the view of either building their own lines or sponsoring a co-operative line in which the gasoline of two or more companies would be transported.

E. B. Reeser, president of the Barnsdall Corp. and head of the Barnsdall operations, on his return to Tulsa Saturday from New York refused to make any statement at this time regarding their plans which are being widely discussed in Mid-Continent refining circles. It is not known whether the corporation expects to have one of the present Barnsdall subsidiaries build and operate the line or whether a new subsidiary will be formed.

### Barnsdall Line

The line as now proposed would start at Okmulgee, Okla., where the largest of the three refineries of the Barnsdall Refineries, Inc., is located. The refinery at present has a crude oil capacity of 11,000 bbls. daily and it is understood that the company expects to increase this so that it will have an output of gasoline, kerosene and other light end products to operate the pipe line which will have a minimum capacity of 10,000 bbls. daily. The refinery has a well-balanced skimming and cracking operation so that maximum yields of the lighter products are obtained. The company also operates a 5,000-bbl. refinery at Barnsdall, Okla., and a plant of similar capacity at Wichita, Kans.

The proposed line will extend north from Okmulgee through Kansas and it would be possible to connect the Wichita refinery to the main line if deemed advisable. The line will pass through Kansas City, Mo., and other large consuming points in Kansas, Missouri and Iowa. From Waterloo, Iowa, it is understood that the line will be extended to Milwaukee, Wis.

The line will traverse a consuming area where the Barnsdall Refining Co., the marketing subsidiary, has a large number of bulk and retail stations and jobber customers. Most of its own outlets are located in Oklahoma, Kansas and Missouri, but it is assumed that the company expects to expand these facilities in the northern territory served by the line.

### Others May Follow

It is believed in trade circles that the lead of the Barnsdall interests will be followed by other companies. Students of refinery and marketing conditions believe that the spread of cheap water and pipe line transportation for refined products in other territories presents a serious competitive problem for the independent refining industry in the Mid-Continent Field and the only solution is for the refinery owners to adopt the same general plan of operation with the view of lowering present transportation costs which are largely governed by rail rates.

The situation in Oklahoma is typical of all the inland refining groups which constitute the Mid-Continent area. At present the refinery gasoline production in the State totals approximately 110,000 bbls. daily. Not more than 20,000 bbls. daily is consumed within the State, constituting the so-called "local consumption."

The bulk of the remainder has to be sold in distant states of the Middle West with a small quantity shipped to the Gulf Coast for export movement. The situation is further aggravated by the fact that Oklahoma is surrounded by other groups of the Mid-Continent area which also have large surpluses in excess of local requirements. The total gasoline production of the Mid-Continent area (Oklahoma, Kansas, North and Central Texas, West Texas, Arkansas and North Louisiana) is about 265,000 bbls. daily. It is estimated that not more than 70,000 bbls. daily is consumed within this general area, leaving a surplus of almost 200,000 bbls. daily to be marketed in competition with refiners who have their plants located within the large consuming sections.

To move the gasoline and kerosene to these consuming points it is necessary to add a freight rate of from 1.5 to 4 cents a gallon. It is this rail charge which places the Mid-Continent refinery operators at a disadvantage when competing with the larger operators who secure their crude oil supplies by pipe line and who with shorter rail hauls on finished products have a lower transportation charge in every gallon of gasoline delivered to consuming points.

The spread of water transportation in-

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# California Refiners on Current Basis

## Crude Output to Jump While Unrestricted Production Is Made to Establish New Potentials. New Committee to Press Curtailment

By L. P. Stockman

LOS ANGELES, Calif., Feb. 10.—Confronted with the necessity of regulating refinery operations to current requirements and reducing state production of crude oil to 609,000 bbls. per day in order to prevent utter demoralization and drastic price cuts in both crude and refined oil California operators are making a concerted attempt to devise ways and means of accomplishing the desired results at the earliest possible moment.

During the past three months state production has been averaging around 700,000 bbls. daily in spite of curtailment work so that producers will be obliged to shut in another 100,000 bbls. per day before reaching their present objective. Approximately 300,000 bbls. of light and heavy crude oil has already been either shut in or curtailed as a result of conservation work up to the present.

Considerable progress has been made toward stabilization during the past few days and recent developments indicate the local situation will be cleared up within the next few weeks. The production situation has not yet been settled but the refinery angle is nearing a solution due to a decision just reached by refiners to operate on a current basis. Approximately 90 per cent of all California refiners have tentatively agreed to this proposal and while no attempt will be made to regulate prices the elimination of distress gasoline resulting from decreased operation of refineries will undoubtedly stabilize the refined oil market in the near future.

### Increase in Production

Before commenting on the seriousness of the local situation it would not be amiss to call attention to the fact that California will show a very substantial increase in daily production during the next two weeks. This will be due to the opening up of production in several flush fields for a period of six days in order to establish new potentials upon which to base future cuts and should not be interpreted as reflecting a permanent cessation of curtailment work. This resumption of production is expected to increase state production approximately 150,000 bbls. a day and it is not beyond the realms of possibility that the readjustment of potentials may add 200,000 bbls. to daily production.

The decision to resume unrestricted production in several flush fields in order to establish new potentials is the result of mature judgment on the part of those sponsoring curtailment work in spite of strenuous objections by several operators and the decision to conduct actual flow tests was made only after careful and deliberate consideration. It was found after a minute survey that daily production could not be reduced another 100,000 bbls. if the present potentials were allowed to stand as this would unduly penalize settled fields where in many cases any additional curtailment would mean a complete shutdown and the possibility of forfeiture of leases. Under these conditions it was therefore obligatory to determine definitely the actual potentials of all flush fields.

### Elwood Flow Test

Production was resumed at Elwood Thursday morning and all wells in this field will be allowed to flow unrestrained for a period of six days. It is interesting to note that actual production for the first three days has greatly exceeded Umpire Grimm's established daily potential of 54,975 bbls. During the first 24 hours after restrictions were lifted to establish new potentials under actual flow tests this field made 57,427 bbls. It increased to 62,238 bbls. on the second day and built up on the third day to 63,299 bbls. Last reports indicate that field production is running at the rate of 65,000 bbls. daily. If production holds up at this rate for the entire six-day period expiring Thursday morning, February 20, it will show that Elwood has been actually curtailed 55 per cent instead of 45 per cent as has been supposed. This flow test also places Elwood on a par with Ventura Avenue as far as current daily production is concerned and greatly enhances the holdings of the Barnsdall and Rio Grande Oil companies.

Similar flow tests will be conducted at Long Beach and Santa Fe Springs some time this week unless a last minute change is made. At Ventura Avenue operators will select a group of representative wells as it was found impossible to conduct an actual flow test because of the extremely high gas-oil ratio and other characteristics peculiar to this

(Continued on Page 141)

## OBSTRUCTION TO GAS LAW TEST DENOUNCED BY L. P. ST. CLAIR

By L. P. Stockman

LOS ANGELES, Calif., Feb. 11.—L. P. St. Clair, vice president of Union Oil Co., at a general meeting of executive heads of all southern California industries, scathingly rebuked the minority of operators fighting enforcement of the California gas law. The most significant part of his speech was:

"The question is whether should we quit and let the situation develop into a struggle for survival of the fittest. If we do, the whole country will suffer. We feel a responsibility to the community and we believe that the community also should feel a responsibility to give aid to those who are trying to solve the situation. The first place it can give help is to give its moral support and favorable expression in favor of the gas law enacted by the last legislature. It is now being attacked in the courts by every technicality that can be devised. Meanwhile 400,000,000 feet of gas are being wasted in California daily. No greater calamity can befall this community than failure of the oil industry. I am urging the building up of public sentiment in the hope that the courts will give litigation on the gas law priority over other matters so that the industry can adjust itself to working for the greater benefit of all."

# Committee Hears Oil Tariff Advocates

## President Wirt Franklin of the Independent Petroleum Association and Associates Appeal to Congress for Tax on Imported Oil

By Charles E. Kern
*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, D. C., Feb. 8.—After devoting four days to a discussion of the needs of the oil-producing industry for a protective tariff on petroleum and its refined products, the campaign of the Independent Petroleum Association of America in this city was concluded today by a hearing accorded by the ways and means committee of the House of Representatives at which President Wirt Franklin and others were heard and were permitted to file such evidence as they saw fit to make their record complete. A complete stenographic report of the proceedings was made and will shortly be available for the members of the house, senators and others.

It soon became evident that the committee had no intention of reopening the tariff discussion but that it was giving the hearing as a courtesy and in the possible event that the Senate might amend the tariff bill by inserting a duty on petroleum and its products, and in that way making such duty an issue before the Senate and house conferees. That was the effect of a statement by Willis C. Hawley of Oregon, chairman of the committee.

"The tariff bill has been passed by the house," said Mr. Hawley, "but in the event that a change affecting petroleum is made by the Senate the information to be placed before us today might be very useful."

The large hearing room of the committee of ways and means was well filled as about 200 of the delegates that had arrived on the special train and others who had stayed over for this occasion at the earnest request of the president of the association. In the audience also were men known to be connected with the large companies that do not favor a protective tariff.

### Hearing by House Committee

When Chairman Hawley called the meeting to order his committee representing all sections of the country was fully represented. The members of the committee were Treadway of Massachusetts, Bacharach of New Jersey, Hadley of Washington, Timberlake of Colorado, Watson of Pennsylvania, McLaughlin of Michigan, Kearns of Ohio, Chindblom of Illinois, Crowther of New York, Aldrich of Rhode Island, Estep of Pennsylvania, Ramseyer of Iowa, Davenport of New York and Frear of Wisconsin, all Republicans, and Garner of Texas, Collyer of Mississippi, Crisp of Georgia, Rainey of Illinois, Hull of Tennessee, Doughton of North Carolina, Ragon of Arkansas, Hill of Washington, Canfield of Indiana and Cullen of New York, Democrats.

Garner of Texas was the only member of the committee whose comments and questions indicated that he was positively in favor of action by this Congress to provide a tariff on petroleum and its products. When Russell Brown of Ardmore, Okla., secretary of the association, read telegrams from producers unable to attend the hearing in favor of a tariff on oil he said such telegrams were received from Pennsylvania, West Virginia, Illinois, Indiana, Ohio and other sections of the country.

"Do you mean to say you can bring influence to bear on representatives of those states in favor of a tariff on oil?" asked Mr. Garner of Texas.

"We feel we can get such influence from all the states," replied Mr. Brown.

"If you can get the representatives of those states to favor your proposition, we can have a special bill reported out of this committee and passed by both houses of Congress," declared Mr. Garner, who then added, "but I am doubtful about your ability to do that."

Replying to a question by Representative Ramseyer of Iowa, Mr. Brown said his association is composed of independents and that the independents represent at least 50 per cent of the oil that comes out of the earth in the United States. Replying to questions, he stated that in 1929 more than 6,000 oil wells had been abandoned because of unfavorable price conditions.

Representative Frear wanted to know why the large oil companies had not joined in this demand for a tariff and he was told it was because they were the ones who were importing the oil. Again in reply to a question, Mr. Brown said he thought 80 per cent of the small wells that had been closed down in 1929 would have continued production if there had been a tariff of $1 per barrel.

### President Franklin's Address

Wirt Franklin, president of the association, the principal speaker for the producers, expressed his appreciation of the courtesy of the committee in according them a hearing. Later Representative Rainey of Illinois said he was glad they appreciated the courtesy because in his opinion that was all they would get.

Mr. Franklin declared that the oil industry carried the greatest taxation of any industry of the country and said it was the hardest industry to conduct in the United States today.

"When oil is spoken of," said Mr. Franklin, "the only thing people think of is the gusher and rich men but many of our operators are not rich at all."

He said that conservation was not now used in its original meaning which indicated the elimination of waste and proper utilization, but it has come to mean "reservation" and not true conservation. Mr. Franklin said that the producers had co-operated heartily in every measure of conservation and he and other members of their association had given their support to measures of conservation. He said nearly all of their members were also members of the American Petroleum Institute and of the Mid-Continent Oil & Gas Association.

"However," he said, "the publicity bureau of the American Petroleum Institute has come to the support of propaganda that does not represent the oil industry as a whole but only the interests of five or six companies engaged in the importation of oil."

He declared there is and has been no overproduction of oil in this country if the importation of oil is omitted from the figures.

Replying to a question, he said that the reason that this plea for a tariff on oil had been so long delayed was that the producers still hoped the enforcement of a policy of conservation would bring about the result they desired.

"Last year," he said, "the leaders agreed that the production for 1929 would be kept down to the level of 1928 but as they curtailed production importation of cheap oil offset their efforts. It might not be within a week but in the course of time the carrying out of such a procedure would eventually eliminate domestic production."

Mr. Garner interrupted and wanted to know what the speaker meant when he referred to importers of oil who were opposing tariff legislation when he referred to them as "they."

Mr. Franklin: "The greatest importer is the Royal Dutch-Shell, next is the Gulf, the Standard of New Jersey, Standard of Indiana and Standard of New York."

### Not Attacking Importers

"I am not attacking these gentlemen," said Mr. Franklin. "They agree that it is right to curtail production but assert that tariff legislation should not be resorted to to stop it. They say such legislation might be right now but 8 to 10 years from now we might not want it and we might have trouble getting rid of it. But I repeat, they agreed that there should be curtailment."

Mr. Franklin referred to the Royal Dutch refinery at Curacao with 175,000 bbls. capacity and the Lago refinery at Aruba with 110,000 bbls. capacity that do not use American labor and receive machinery from Belgium and Germany. He said the imports of refined products to this country as a result of these activities had increased 2½ times in one year and added that they would increase 2½ times in another year if Congress does not protect the producing industry from such imports.

He added that the consumers of products of crude oil do not receive a particle of advantage from these importations of foreign oil and that the profit on such oil goes entirely to the importers and for that reason naturally they are opposed to a tariff on oil.

"Our property will eventually become valueless," declared Mr. Franklin. "Some four or five companies importing foreign oil will ultimately become owners of all the oil reserves in the United States and then you will have a monopoly.

"I predict that no representative of these importing companies will appear here in the open as we are doing and attempt to show you any reason why this tariff should not be given to the oil industry. That is not their method. They will get the American Automobile Association to come to you in behalf of the American people. They will secure the Association of Manufacturers that wants to have this cheap fuel that has paralyzed the coal industry so that today over 50,000 workmen in the coal industry are out of work because of cheap fuel oil used under boilers at a cost of 50 and 60 cents a barrel."

### Does Not Fear Exhaustion

The alleged exhaustion of our petroleum resources in the near future, he said, was evidence of another method for erroneously stating conditions to influence the public. "They declare that we may wake up some day," he said, "to find we do not have enough oil in the United States for the safety of the country.

"To use a common phrase of the West, that is all just bunk," said Mr. Franklin. "That is simply a part of their plan to convince people that these imports are all right and that we should keep our own oil in the ground until we use up the foreign oil. But next month it may be disclosed that some substitute

(Continued on Page 110)

## OIL PRODUCERS AND ROYALTY OWNERS ASK TARIFF AT WASHINGTON

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*Group of Mid-Continent oil producers and royalty owners at the Union Station, Washington, where they arrived in a special 14-car train. Left to right: J. Edward Jones, Ross D. Pine, Tom Cranfill, J. W. Olvey, Wirt Franklin, Senator Elmer Thomas, Wade H. James, Joe Cromwell, H. B. Fell, W. W. Hastings, Joe Danciger, A. C. Trumbo, George W. Strawn, Wilburn Cartwright and E. B. Howard.*

# Foreign Oil and U. S. Oil Industry

## Per Cent Ratio of Total Gasoline from Imports to Total Domestic Demand Plus Exports Lower than 10 Years Ago

By Harold J. Wasson

The visible world reserves of petroleum have been increasing during the past decade by leaps and bounds. Former estimates of an oil supply limited to a few years are rapidly going into the discard. The industry itself, and much against its will, is emerging from its at times prodigal youth, characterized by the glamour and romance of the gusher oil strike with its resulting sensational flow of wealth, to a period of maturity wherein the supply of the raw material has expanded to the point that "Discovery Values," once the grand old piece de resistance of the oil drama, has lost much of its former prestige, and now struggles for attention along with such prosaic performers as "Distribution" and "Sale." In a word, the oil industry's close kinship with its fellow producer of hydrocarbons, the coal industry, for so long a time merely a sort of dull economic joke, is becoming evident to a disagreeable but only too obvious degree.

There is nothing cheerful in this, and one instinctively hopes it may not be true, as the search for oil has probably provided that privileged section of humanity engaged in its fascinating ramifications with a keener zest than any other form of industrial activity not excluding mining, which so often suffers from a lack of nature's special gift to the oil man—quick action. The facts and the changing trend, however, may as well be squarely faced; and the industry, even though reluctantly, will probably gain, if it will attempt to realize this change now going on within it, and adjust itself to the disagreeable task of devoting as much time to the study of dry but suggestive economic statistics, as it now gives to the more intriguing contours of the geologists' anticline maps.

### Question of Foreign Oil

One of the economic phases of the situation deserving of special statistical study at this time is the question of foreign oil.

There is a rather widespread misconception concerning the effects of foreign oil operations on the domestic situation that presently appears to be the chief obstacle in the way of satisfactorily working out the broad problem of rationalization. The question of foreign oil is naturally a matter of importance, but the present manner of its consideration by a large section of the industry is open to very decided criticism. It is merely one of the factors in the case, and before jumping to the sentimental or biased conclusion that it is the source of all domestic oil troubles, the available facts should be carefully examined and brought into their proper relationship with the entire picture. If foreign oil is the key to the situation, then the problem is indeed simple. Tariff aid for the industry, once it shall in principle be supported on even reasonably adequate grounds, can hardly be indefinitely withheld. If foreign oil is, however, not the key to the situation, but is merely one of the component factors in a much broader complex, then the present furor concerning the matter had best be immediately calmed down. It should be kept calmed down long enough to permit the real facts of the case to become generally appreciated.

### Dangers Involved

This is a question of serious moment to the industry, there being two very clear dangers involved in a continuance of the present agitation:

**First:** There is the danger that a precipitate, ill-considered resort to a protective tariff on oil will in reality be an economic blow rather than a help to the domestic oil industry. Anomalous as it may seem, the value of an oil tariff to the American producer is far from being a proved fact. Superficially, it has the appearance of a perfect panacea, but examination in detail reveals many serious objections.

Second, and perhaps the most damaging effect to the present trend of thought and agitation, is the bringing of the questions involved into a distorted focus. That is, the consideration of all other factors necessary to a satisfactory solution of the domestic producers' problem is momentarily sidetracked; and foreign oil has been most unwisely singled out as the key to the situation, at the cost of perhaps much lost time that could be better spent in studying and correcting the vastly more important defects in the domestic situation itself. This loss of perspective may cost the industry many a month's delay in adjusting itself, and the purpose of these notes is to present a few simple figures that should to some extent at least clarify the current thought with respect to the foreign oil situation.

The entire question of foreign oil is, as everyone knows, though apparently gives little heed to, represented statistically by the Government (or A. P. I.) figures for imports and exports of crude oil and refined gasoline and other products. The other refined products such as fuel oil, gas oil, wax, etc., if included, merely confuse the picture without contributing substantially to the dollars and cents result of the foreign trade balance sheet. Thus for simplicity's sake, the source figures from which the later conclusions are drawn are here limited to crude petroleum and gasoline. Table No. 1 presents these basic figures taken from United States Bureau of Mines compilations, the period covered being from 1918 to 1929, with an estimate for 1930.

**TABLE NO. 1**
(In barrels of 42 U. S. gallons)

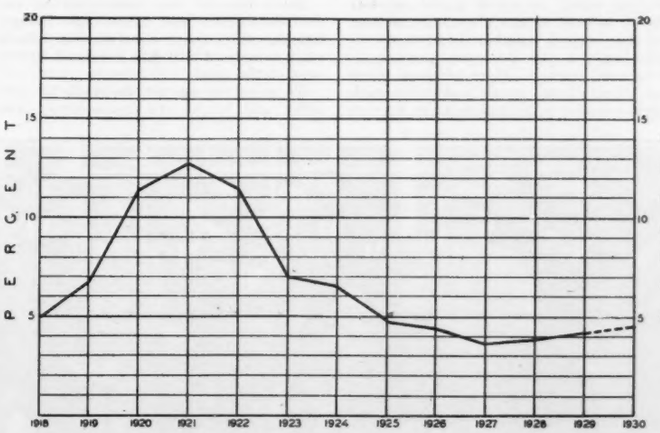
| | Crude oil | | | Gasoline | | |
|---|---|---|---|---|---|---|
| Year— | Imports (1) | Exports (2) | Net imports† (3) | Imports (4) | Exports (5) | *Apparent export balance, net exports‡ (6) |
| 1918 | 37,736,000 | 5,884,000 | 31,852,000 | 307,000 | 13,544,000 | 13,237,000 |
| 1919 | 52,821,000 | 6,253,000 | 46,568,000 | 203,000 | 9,097,000 | 8,894,000 |
| 1920 | 106,175,000 | 8,583,000 | 97,592,000 | 964,000 | 15,636,000 | 14,672,000 |
| 1921 | 125,364,000 | 9,552,000 | 115,812,000 | 900,000 | 13,134,000 | 12,234,000 |
| 1922 | 130,255,000 | 10,637,000 | 119,618,000 | 1,479,000 | 14,156,000 | 12,677,000 |
| 1923 | 82,015,000 | 17,210,000 | 64,805,000 | 4,555,000 | 20,741,000 | 16,186,000 |
| 1924 | 77,776,000 | 17,871,000 | 59,905,000 | 3,453,000 | 28,967,000 | 25,514,000 |
| 1925 | 61,824,000 | 13,127,000 | 48,697,000 | 3,813,000 | 31,497,000 | 27,684,000 |
| 1926 | 60,382,000 | 15,356,000 | 45,026,000 | 5,540,000 | 43,313,000 | 37,773,000 |
| 1927 | 58,382,000 | 15,843,000 | 42,539,000 | 5,003,000 | 44,337,000 | 39,334,000 |
| 1928 | 79,582,000 | 18,962,000 | 60,620,000 | 4,297,000 | 53,803,000 | 49,506,000 |
| 1929 | 78,900,000 | 25,775,000 | 53,125,000 | 8,850,000 | 60,764,000 | 51,914,000 |
| 1930 | 80,000,000 | 25,000,000 | 55,000,000 | 12,000,000 | 65,000,000 | 53,000,000 |

*Net exports here shown give the apparent trade balance as they make no allowance for gasoline contained in the net crude oil imports. The difference between gasoline exports given in Column 5 above, and the total gasoline imports shown in Column 4, Table 2, is the true figure for net gasoline exports. A close approximation of these true net exports is shown in Column 1 of Table 3. †Column 1 minus Column 2. ‡Column 5 minus Column 4.

**TABLE NO. 2**
**GASOLINE EQUIVALENT OF CRUDE IMIPORTS**
(In barrels of 42 U. S. gallons)

| Year— | Net crude imports (1) | 12½% 1918-23 17½% 1924-30 (2) | Gasoline imports (3) | Ttl. gasoline added to U.S. market by foreign oil (4) |
|---|---|---|---|---|
| 1918 | 31,852,000 | 4,000,000 | 307,000 | 4,300,000 |
| 1919 | 46,568,000 | 5,800,000 | 203,000 | 6,000,000 |
| 1920 | 97,592,000 | 12,200,000 | 964,000 | 13,200,000 |
| 1921 | 115,812,000 | 14,400,000 | 900,000 | 15,300,000 |
| 1922 | 119,618,000 | 14,900,000 | 1,479,000 | 16,400,000 |
| 1923 | 64,805,000 | 8,100,000 | 4,555,000 | 12,700,000 |
| 1924 | 59,905,000 | 10,500,000 | 3,453,000 | 14,000,000 |
| 1925 | 48,697,000 | 8,500,000 | 3,813,000 | 12,300,000 |
| 1926 | 45,026,000 | 7,900,000 | 5,540,000 | 13,400,000 |
| 1927 | 42,539,000 | 7,500,000 | 5,003,000 | 12,500,000 |
| 1928 | 60,620,000 | 10,600,000 | 4,297,000 | 14,900,000 |
| 1929 | 53,125,000 | 9,300,000 | 8,850,000 | 18,200,000 |
| 1930 | 55,000,000 | 9,600,000 | 12,000,000 | 21,600,000 |

Note—Columns 1 and 3 are directly from Table No. 1. Column 4 is the sum of Columns 2 and 3.




PERCENT RATIO OF TOTAL GASOLINE FROM IMPORTS TO TOTAL DOMESTIC DEMAND PLUS EXPORTS

### No Sudden Flood

Even from Table No. 1, which is but the foundation for a complete study of the subject, certain striking facts are at once apparent. Probably the first point to be noted will be the remarkable similarity between the figures for net crude oil imports for each year since 1922. There is certainly nothing in this 9-year range of from 42,000,000 to 65,000,000 bbls. that would appear to furnish any substantiation for the current popular misapprehension concerning "the great flood of cheap foreign oil sweeping into the country."

As is shown clearly by Table No. 1, the "flood" obviously subsided with the production decline in Mexico after the peak years of 1920, 1921 and 1922. Since that time the rise of Venezuela and Colombia has been counterbalanced almost barrel for barrel by a continuation of the Mexican decline. Bringing the question right down to date, however, it will be observed that the crude imports in 1929 were actually less than in 1928; and, moreover, that due to the substantial increase in last year's crude exports the net imports for 1929 showed a very substantial drop below the 1928 level. From the standpoint of crude oil, certainly the foreign activity of 1929 may be completely absolved from the charge of aggravating the overproduction situation.

### Exports Over Imports

Turning to the gasoline side of Table No. 1, the outstanding feature is the substantial surplus of exports over imports throughout the entire period covered. Imports of gasoline in 1929 did show for the first time a decided jump upwards. Exports, however, rose by an equal amount, and it is important to note from the estimate for 1930 that during the present year the increase of imports is expected to be somewhat less than the increase in gasoline exports. This will result in a further net increase of the export trade balance during 1930, and bring it to the highest figure in the history of the industry.

A consideration of Table No. 1 and the foregoing remarks will no doubt justify at least the suspicion that something may be amiss with this popular indictment of foreign oil as the chief economic culprit. Further investigation of the subject in more detail will yield ample evidence upon which to dismiss the case entirely.

### Graphic Illustration

The accompanying graph (Figure 1) is an attempt to portray in the simplest possible form the boiled down statistical essence of the relationship between foreign oil and the United States domestic industry; in other words, to answer the query of just how big a share of the oil business is going to the foreign oil producer. As will appear from the following explanation, the entire question is simplified by being reduced to terms of gasoline.

Before considering this graph, it will be well to discuss briefly the basis upon which it was constructed. The curve, it will be noted, is based on a comparison between gasoline ratios, and this requires that all items of foreign trade in crude oil be reduced to a common denominator, expressed in barrels of gasoline. Only in this way can the true net gasoline balance sheet for the country be drawn up. The computation involves an estimate of the gasoline added to the domestic supply by the crude imports; that is, by the net imports of crude oil. This distinction between just imports and net im-

(Continued on Page 108)

# Superintendents Visit Humble Plant

## Joint Meeting of Refinery Operators Marked by Inspection of Baytown Refinery, Where Trend of Modern Methods Is Seen

By W. T. Ziegenhain

HOUSTON, Tex., Feb. 8.—Responding to the invitation of H. C. Wiess, vice president of the Humble Oil & Refining Co. in charge of refinery operations, 12 plant superintendents and other representatives of the Standard Oil Co. of New Jersey held their annual meeting here last week in conjunction with the operating staff of the Humble company. A large part of the time was spent in reviewing the operations of the Baytown refinery, the largest of the Humble group.

In addition to the plant's large capacity, cleanliness and completeness of operations, some of the newer facilities still under construction drew particular interest.

At present the crude runs are being maintained at near 115,000 bbls. per day, approximately 70,000 bbls. of which is made up of West Texas, North Central Texas and Panhandle crudes, the rest being coastal crude.

The plant typifies mass production in the refining industry. The products are limited to those for which there is a large general demand. The method of operation resulted largely from the fact that 80 per cent of the output is loaded on tankers and transported to foreign and East Coast markets. Gasoline, kerosene, gas oil, fuel oil, black oil and a complete line of Gulf Coast lubricants comprise the list of products manufactured here. It should not be inferred, however, that no attention is being given to the local market, for recently a program of expansion was instituted for the direct retail distribution of the company's products throughout all of Texas.

Within the last three years the plant has had rapid growth. Approximately 80,000 bbls. refining capacity has been added and other facilities have been increased in proportion. As the manufacturing facilities were increased a definite plan of housing the employes was adopted. As a result of this plan a city of 5,000 people was established on company owned ground a short distance from the plant. The site was cleared and paved streets run through a greater portion of the land. All improvements, including sewers, gas, electricity, water, fire protection, police, etc., were supplied in advance and the further development of the community simply awaited the employe. To establish a home within the city an employe submits the plan of the house he desires, together with an estimate of its cost. The company finances the deal at a lower rate of interest than generally is obtainable.

Within the plant are many interesting methods of operation. The kerosene treating plant, in which liquid sulphur dioxide is used as the absorbing medium for the organic sulphur compounds in following out the Edeleanu process, is of unusual interest. Here kerosene made from West Texas crude and other high sulphur crudes is treated to make a product of exceptionally good burning qualities.

### Debutanization Plant

A more recent development is the debutanizing plant. This was designed and placed in operation as a result of the research work first carried out in the company laboratories. Its operation is described by H. D. Wilde, Jr., Brian Mead and Stewart P. Coleman in the October 3, 1929, issue of The Oil and Gas Journal.

Briefly stated, the plant removes, almost quantitatively, those light fractions of the cracked gasoline that later would cause excessive evaporation losses. A general view of the detubtanizing towers and the exchangers used for heating the cracked distillate is shown here. All of the gasoline produced from the 20 tube and tank units and the two Cross units is processed through these towers. This production averages close to 25,000 bbls. daily.

Much interest was manifested by the visitors in the new 20,000-bbl. Badger topping unit under construction, which when completed will take overhead 40 per cent of the crude.

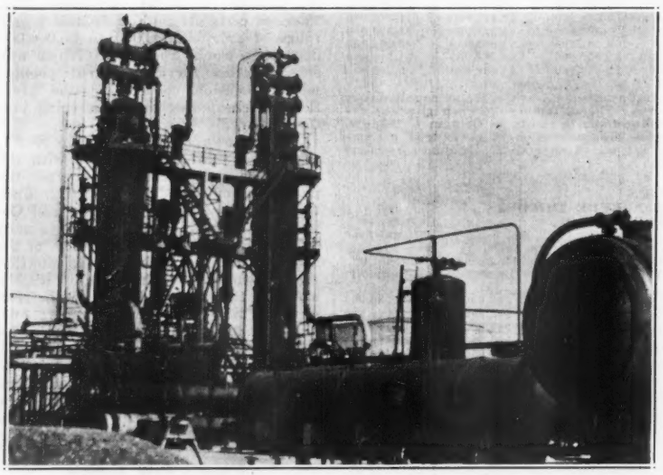
To meet the market demands for cylinder and bright stock production, the Humble Oil & Refining Co. has in operation a new vacuum distillation unit for the preparation of such cylinder stocks by distillation overhead from reduced Mid-Continent paraffin base crudes. A general picture of the vaporizing dome on the vacuum unit is shown here. This has been designed to withstand a sufficient degree of vacuum to obtain the required viscosity stocks overhead.

The overhead cylinder stock cut will be diluted with naphtha in the usual manner, chilled first by heat exchange with dewaxed solution and brine and then brought to very low temperatures by direct ammonia expansion. Twenty Sharples centrifuges have been added to effect dewaxing of the solution.

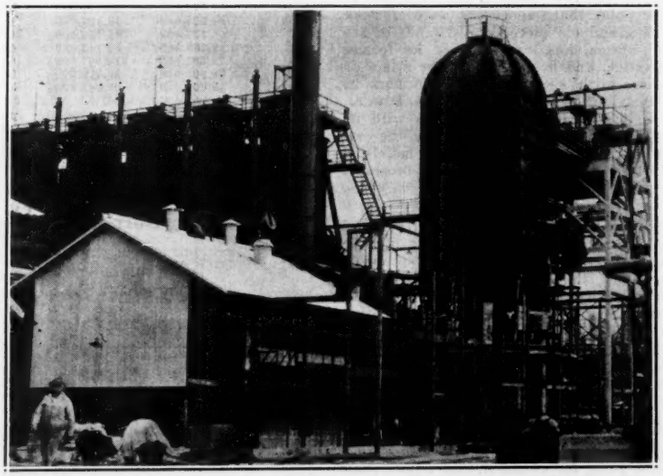
Contact filtering will be used to decolorize the stock but the operation will vary from the conventional method in the fact that all of the oil, which is first filtered through Sweetland presses, will be refiltered through blotter presses to remove the slightest trace of moisture and clay.

The whole scheme of the design of the equipment has been outlined to provide for continuity in the processing of the oil. Specially designed surge tanks and other

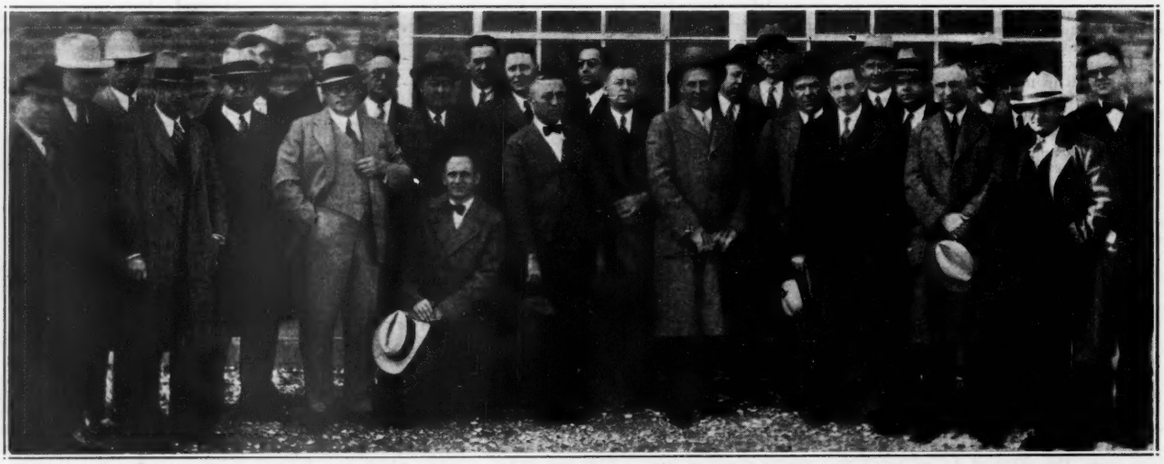
(Continued on Page 111)



*Debutanizing plant at the Baytown refinery of the Humble Oil & Refining Co. Here the cracked gasoline is stripped of butane and the lighter fractions which after separation, are stored in suitable tanks, effecting a minimum evaporation loss. The cracked distillate being processed is kept under pressure in the towers and is continuously withdrawn from the bottom through heat exchangers which in turn vaporize the light fractions. These re-enter the tower and finally pass to the vapor condensers. The Debutanized gasoline passes on through a cooler to storage.*



*New vacuum distillation unit for the manufacture of overhead paraffin base cylinder stock, at the Baytown plant of the Humble Oil & Refining Co. The large reinforced dome shown here will serve as the vaporizing compartment.*



*Members of the party of Standard of New Jersey and Humble Oil & Refining Co. operators who inspected the latter company's refinery at Baytown, Tex.*

# Rotary Returns Need Careful Study

## Modern Drilling Makes Quick and Accurate Methods of Identification of Cuttings Essential

By L. G. E. Bignell
*Petroleum Engineering Editor*

A few years ago it was customary for the driller to make the notations upon his daily log book of the type of formation penetrated during each day's work, and while a few samples of the cuttings were taken they were usually passed to the superintendent for his check upon the driller's identification and as a result it has been found that accurate data concerning the formations passed through in many of the older wells are not available.

With the introduction of the more modern methods of drilling and the greatly increased amount of money invested in each well it has become necessary to make many changes in this type of work and the driller is no longer required to make the log of the well that is used for final reference, for this work is now done by a very highly organized branch of the geological department.

The drilling crew at a rotary well is still required to secure the cuttings that are used by the geological department and it is the usual practice to pass a bucket through the stream of rotary mud leaving the end of the slush trough and after this mixture has had time to settle the thin muddy water is poured off and the cuttings in the bottom saved.

### Special Buckets

Some companies supply their crews with special buckets for this purpose that are made with perforated bottom and perhaps a ring of holes around the side near the bottom, these holes in the bottom and side being covered with a thin wire screen. With this type of sample bucket the water and most of the thin mud will drain out quickly and leave only the coarse cuttings in the pail.

These cuttings are usually washed with water taken from a hose operating under considerable pressure and this high velocity stream will clean the cuttings of a greater part of the mud that was sticking to them.

This roughly washed sample is then put into small cotton cloth sample sacks and marked for identification as to depth of hole at the time taken.

There should be a correction made in the depth as recorded by the driller based upon the amount of pipe in the hole to allow for the time required for the sample to travel from the bottom of the hole to the surface. In deep wells this error can be several feet for it may take the sample several hours to reach the surface, after it has been removed from the formation due to change in velocity of the upward stream of mud fluid in the hole.

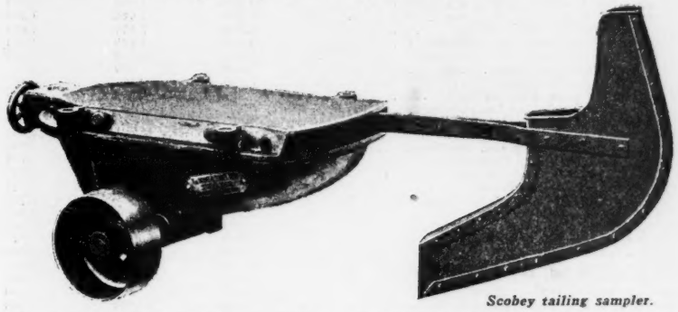
To illustrate, if the hole is 6,000 feet deep and the drill is penetrating the formation at the rate of 50 feet per 24 hours or about 2 feet an hour, and the current velocity up the hole is such that it requires from 4 to 5 hours for a particle to reach the surface from the bottom, the driller in stating the depth from which the cuttings were received is really reporting upon material that has been some appreciable time in transit.

In a practical way this might not have any effect upon the setting of casing for a good driller will know when there has been a marked change in type of formation penetrated and be guided accordingly, but for the geologist who is later trying to correlate the different strata for the purpose of mapping structure this variation might make some details hard to interpret.

### Remedy Suggested

To remedy this it is suggested that the samples be taken in the same manner that tailing samples are taken in ore milling plants in the mining industry. There are a number of very reliable machines made for this purpose and illustration of the Scobey tailing sampler is shown.

This is a very simple and inexpensive machine and is designed for taking samples from a stream of pulp or tailings and, as shown, is belt driven, but this type of drive may be changed to suit the conditions at the well. The sample taken is a predetermined portion of the total amount of material passing through the trough or launder and by a simple adjustment made with the hand wheel the time interval between cuts can be from 7 seconds to 5 minutes and the quantity taken for sample amount to from one five hundreths to one ten thousandths of the total stream.

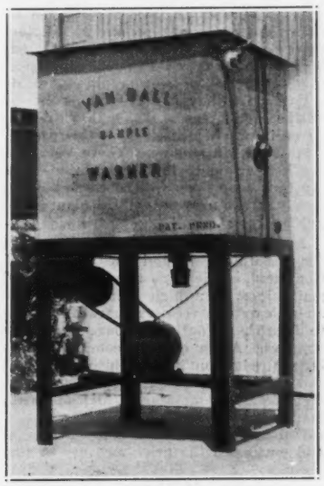


*Scobey tailing sampler.*

The machine can be so regulated that it will take so small a proportion of the stream that one bucket may hold a complete day's sample or it may be so large that it will require a special bin or tank to hold the sample.

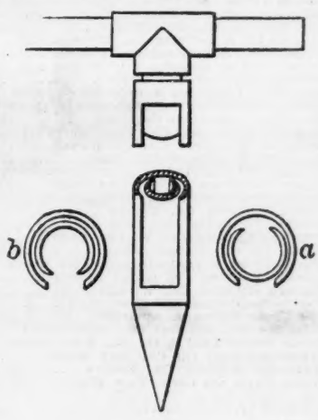
With a sampler of this kind in use it would be possible to cut an accurate cross section of the stream at fixed intervals and deposit them in a receptacle in such a way as to permit of a smaller sample being later taken that would accurately represent the kinds of formations penetrated and would also permit the depth at which these strata were found to be quite accurately calculated.

If this sampler were set in motion at a time when the depth of the well was definitely known and some easily identified material thrown into the mud stream entering the drill pipe it would serve as a timer by which means the time required for a complete cycle of the mud could be made known. It would then be possible to collect the cuttings in a deep box or cylinder and the first cuttings to reach the surface would be at the bottom of the sample safe or box with the cutting from the deeper hole deposited on top of them in their regular order.




*General view of the Van Dall sample washer.*

After the sample box is filled a pipe or cheese scoop sampler shown in the illustration could be used to take a full vertical section of this deposit and this sample would be very much like a core taken from the well and could be examined in the field geologist's office and the position of the strata noted accurately.




—Richard's "ore dressing."
*Cheese scoop sampler.*

### Details to Be Worked Out

There are several details to be worked out to make this method applicable to rotary drilling but so much work has been done in ore sampling that there does not appear to be any reason why the benefit of that knowledge cannot be used now by the driller and the geologist.

The sample of cuttings as now obtained are found to still contain a considerable quantity of mud and silt even though washed on the derrick floor and it is the practice of the geological department to further wash them in the sample room.

This washing is done by the hand or machine method. The hand washing is slow and where there are several hundred samples to be handled daily it has been found that two or three men are required for this work.

A machine has been patented by John E. Van Dall of the geological department of the Sinclair Oil & Gas Co. that has reduced this labor and at the same time has permitted a better washing of the samples.

This machine consists essentially of a square tank in which a "paddle" rotates on a horizontal axis and carries a set of 16 boxes each containing a sample through a bath of water. The "paddle" is a framework of iron rods and it is turned by an electric motor at the rate of about 24 R.P.M.

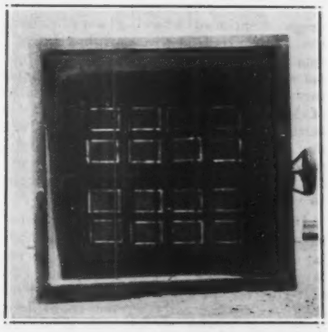
The water level in the tank is kept at a point that coincides with the axis of the paddle and an overflow regulates the depth of water within the tank. Clean water is constantly added to the tank from some outside source.

It is very necessary that the individual samples be kept separate and for this purpose small sheet copper boxes are used that have brass wire screen bottoms and tops. These boxes are made to fit into the compartments in the "paddle" frame and the mesh of the screen forming the top and bottom of each box is selected to suit the particular size of cutting to be washed.

### Method of Washing

As the paddle rotates upon its horizontal axis the boxes are alternately passed through the water and the air space above the water and in this way the sample is thoroughly agitated and all mud particles broken loose from the larger pieces of cuttings. The mud will flow out through the overflow in the tank along with the dirty water or if too large to be carried by this current will settle to the bottom of the wash tank and be out of the way for the clearance of the paddle above the tank bottom is sufficient to prevent these settlings being again moved until they are taken out with a scoop when the tank is drained and cleaned.

The screens used in the boxes vary from 60 mesh for cable tool cuttings in which the minute fossil forms, that are so useful in microscopic examination work are found, up to 30 mesh screens for rotary samples as those fragments are usually of much coarser size than cable tool cuttings.



*Interior view of Van Dall sample washer showing paddle with individual sample boxes in place.*

However, the screens can be varied to meet the particular requirements of the laboratory using this type of washer and it is the usual practice to carry on hand a sufficient number of boxes and screens to meet all conditions. Each box is numbered to permit of identification of the sample at all times.

After the samples have been washed it is necessary to dry them and for this purpose a gas heated oven is used and as many as 96 samples dried at one time.

This drying process requires care for if the sample is not properly handled it may cake and require further crushing to break it into its original particles so that the whole sample can be examined under the microscope. A little experience in this work permits the operator to

(Continued on Page 109)

# Reduce Mid-Continent Refinery Runs

## February Operations to Be 16,000 Bbls. Less than in January Continuing Downward Trend Which Started in June

By C. O. Willson

Petroleum refiners operating plants in Arkansas, Kansas, North Louisiana, Oklahoma, North and Central Texas and West Texas which comprise the Mid-Continent area will run 16,000 bbls. daily less crude oil to their stills than they did in January according to the monthly check of The Oil and Gas Journal covering the operations of individual plants.

The decrease was general, all of the areas mentioned showing small reductions. The total decrease while relatively small, reflects the unfavorable refined market situation which has been general for several months. Crude runs to stills of Mid-Continent refiners have shown a fairly consistent decline since early June due to this situation and on February 1 were approximately 65,000 bbls. daily under the peak of June 1 when crude runs to stills totaled 585,030 bbls. daily.

**RUNS TO STILLS AT MID-CONTINENT REFINERIES**

| | |
|---|---|
| **1928** | |
| January 1 | 415,125 |
| February 1 | 418,275 |
| March 1 | 427,145 |
| April 1 | 451,225 |
| May 1 | 479,225 |
| June 1 | 487,135 |
| July 1 | 506,310 |
| August 1 | 543,625 |
| September 1 | 563,270 |
| October 1 | 547,820 |
| November 1 | 550,000 |
| December 1 | 520,000 |
| **1929** | |
| January 1 | 508,550 |
| February 1 | 506,800 |
| March 1 | 514,950 |
| April 1 | 530,530 |
| May 1 | 577,500 |
| June 1 | 585,030 |
| July 1 | 565,800 |
| August 1 | 555,250 |
| September 1 | 552,300 |
| October 1 | 544,720 |
| November 1 | 545,473 |
| December 1 | 540,630 |
| **1930** | |
| January 1 | 535,460 |
| February 1 | 519,355 |

Due to the exceptionally low tank car gasoline prices which have prevailed since late in November many have expected larger reductions in crude runs to stills at refineries than have actually materialized. It is generally agreed that plant operations except in unusual situations have been unprofitable and it was assumed that crude runs would be curtailed until this situation adjusted itself either by lower crude prices or higher refinery prices or a combination of the two.

During the past month some of the larger crude oil buyers who transport the bulk of their purchases to plants outside the Mid-Continent area have reduced their posted prices and refiners in North Louisiana, Arkansas and most of the refiners in West Texas are profiting from this decrease. In the remainder of the Mid-Continent most of the crude oil contracts of the refiners are based on the posted prices of major buyers who as yet have not reduced their posted prices.

### Unusual Situation

The unusual situation which exists in regard to crude oil supplies probably accounts for the fact that no large reductions in crude runs to stills have as yet materialized in the Mid-Continent Field. In the case of most of the smaller refiners they do not care to drop crude oil connections for fear they will not be able to resume the connections later in the year. While the crude oil situation is considered weak, the proration agreements now effective and those which may be made later in the year has brought an uncertainty regarding the future supply. The excess supplies are coming from a few fields and a majority of the refiners do not have pipe line connections to these areas. Even if crude oil would be available from these pools throughout the year these refiners would not be in a position to buy it. They must depend on the older areas to which they are now connected and in most cases this production is not increasing. These operators are holding on to their connections hoping that conditions will be corrected and they can again operate their plants at a profit.

In the case of some of the larger refiners both within and outside the Mid-Continent, crude runs to stills are being maintained at a high point in spite of an unfavorable refinery market in order to furnish an outlet for large crude oil supplies. A few of these companies have large production in the flush areas and this further emphasizes this situation which tends to maintain a high operating status at refineries which in turn has resulted in large accumulations of gasoline and postponed the price recovery of that product.

### Oklahoma

Except for the Mid-Continent Petroleum Corp. decreases in Oklahoma operations were practically offset by the increases. The Mid-Continent corporation which operates the largest refinery in the State has decreased its runs to 18,000 bbls. daily. The cracking operations of the refinery also have been curtailed due to the low gasoline prices.

The Continental Oil Co. which curtailed its operations during the fall and winter months increased its runs for February to an average daily basis of 16,000 bbls. The Wilcox Oil & Gas Co. is not running any crude oil at its Bristow refinery. At Allen, the Homaokla Oil Co. which is now owned by the Sunray Oil Co. has resumed operations at its small skimming plant.

### North and Central Texas

Refiners in North and Central Texas had the largest decrease of any group. The total reduction comes from small decreases at a few plants. Many of the smaller refiners in this area are sharing in large export gasoline business. They are securing a relatively high price for this material compared to prices prevailing in the domestic market. Plenty of crude oil is available at posted prices and many of these refiners are in a better operating position than the remainder of the Mid-Continent Field.

### Other Areas

In Kansas the only important change in operations was a reduction from 10,000 bbls. daily to 8,000 bbls. at the Neodesha refinery of the Standard Oil Co. of Kansas. The Kanotex Refining Co. has decreased its runs to 2,000 bbls. daily.

Small decreases at several West Texas refineries were offset by an increase from 5,000 to 9,200 bbls. daily at the El Paso refinery of the Pasotex Petroleum Co. (Standard Oil Co. of California). The El Paso refinery has a rated capacity of 10,000 bbls. daily but until the past month has never approached that figure in actual runs. Two plants at Wickett belonging to the Bluebonnett Refining Co. and the Wickett Refining Co. are shut down. The latter plant has been operated largely with tops from the Bluebonnet. No date has been announced for the resumption of crude runs.

In Arkansas, the Waterloo plant of James B. Berry & Sons Co. is operating again. The Camden plant of the Houston Oil Co., which resumed operations last month, is now operating near capacity. The Smackover plant of the Simms Oil Co. will be shut down over the greater part of the month for repairs. There were no important changes in North Louisiana operations.

### MID-CONTINENT REFINERY OPERATIONS

(Based on operations February 1, 1930, and January 1, 1930)

| District— | No. plants | Daily crude capacity | Daily cracking capacity | Plants operating Feb. 1 | Runs to stills Feb. 1 | Plants operating Jan. 1 | Runs to stills Jan. 1 | Daily decrease Feb. 1 |
|---|---|---|---|---|---|---|---|---|
| Arkansas | 9 | 44,800 | 13,150 | 8 | 30,355 | 9 | 30,650 | 295 |
| Kansas | 15 | 130,500 | 73,850 | 15 | 86,700 | 15 | 89,300 | 2,600 |
| North Louisiana | 6 | 58,700 | 23,500 | 6 | 38,500 | 6 | 39,800 | 1,300 |
| Oklahoma | 45 | 307,300 | 116,750 | 41 | 193,750 | 41 | 198,300 | 4,550 |
| North and Central Texas | 36 | 166,700 | 25,000 | 32 | 100,200 | 34 | 106,700 | 6,500 |
| West Texas | 28 | 142,000 | 53,850 | 25 | 69,850 | 27 | 70,710 | 860 |
| Total | 139 | 850,500 | 306,100 | 127 | 519,355 | 132 | 535,460 | 16,105 |

### REFINERY OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| Anderson-Prichard Oil Co., Cyril | 4,000 | 4,000 | 4,000 |
| Barnsdall Refineries, Inc., Barnsdall | 6,000 | 4,000 | 4,000 |
| Barnsdall Refineries, Inc., Okmulgee | 10,000 | 3,000 | 3,500 |
| Bell Oil & Gas Co., Grandfield | 4,500 | 2,500 | 1,500 |
| Champlin Refining Co., Enid | 16,000 | 8,000 | 9,000 |
| Citizens Refining Co., Seminole | 1,000 | 100 | 100 |
| Continental Oil Co., Sapulpa | 10,000 | 2,000 | 2,000 |
| Continental Oil Co., Ponca City | 30,000 | 16,000 | 13,000 |
| Cushing Refining & Gasoline Co., Blackwell | 1,800 | 1,000 | 1,300 |
| Cushing Refining & Gasoline Co., Cushing | 3,500 | 2,000 | 2,000 |
| Eason Oil Co., Enid | 5,000 | 2,000 | 3,000 |
| Empire Oil & Refining Co., Cushing | 5,000 | 4,700 | 4,700 |
| Empire Oil & Refining Co., Okmulgee | 4,000 | 4,000 | 4,000 |
| Empire Oil & Refining Co., Ponca City | 7,500 | 7,500 | 7,500 |
| Garber Refineries, Inc., Garber | 3,500 | 2,000 | 2,800 |
| Globe Oil & Refining Co., Blackwell | 7,500 | 7,000 | 7,000 |
| Globe Oil & Refining Co., Cushing | 15,000 | 11,000 | 11,000 |
| Homaokla Oil Co., Allen | 3,000 | 500 | (*) |
| Illinois Oil Co., Cushing | 3,000 | (*) | (*) |
| Imperial Refining Co., Ardmore | 5,000 | 2,800 | 2,900 |
| Independent Oil & Gas Co., Okmulgee | 5,000 | 3,500 | 3,500 |
| Johnson Oil Refining Co., Cleveland | 6,000 | 4,500 | 5,000 |
| Mid-Continent Petroleum Corp., West Tulsa | 40,000 | 18,000 | 22,000 |
| Northwestern Refining Co., Tonkawa | 3,000 | 3,000 | 3,000 |
| Peppers Gasoline Co., Covington | 1,000 | 700 | 700 |
| Pierce Oil Corp., Sand Springs | 8,000 | 6,500 | 7,000 |
| Producers Oil Co., Bristow | 2,500 | 1,500 | 1,500 |
| Producers & Refiners Corp., West Tulsa | 6,000 | 3,600 | 3,500 |
| Pure Oil Co., Ardmore | 5,000 | 2,000 | 2,000 |
| Pure Oil Co., Muskogee | 9,000 | 8,000 | 7,000 |
| Remington Oil Co., Wewoka | 2,000 | (*) | (*) |
| Rock Island Refining Co., Beckett | 2,500 | 2,000 | 2,000 |
| Shaffer Oil & Refining Co., Cushing | 10,000 | 10,000 | 10,000 |
| Sun Oil Co., Yale | 5,000 | 5,000 | 4,900 |
| Sinclair Refining Co., Muskogee | 1,000 | 500 | 500 |
| The Texas Company, West Tulsa | 15,000 | 15,000 | 15,000 |
| Texas Pacific Coal & Oil Co., Wynnewood | 2,500 | (*) | (*) |
| Tidal Refining Co., Drumright | 11,000 | 10,000 | 10,000 |
| Transcontinental Oil Co., Boynton | 2,500 | 1,500 | 2,000 |
| Transcontinental Oil Co., Bristow | 5,000 | 3,000 | 3,500 |
| Western Oil Corp., Beckett | 2,000 | 1,500 | 1,500 |
| White Oak Refining Co., Allen | 8,000 | 7,000 | 6,000 |
| Wilcox Oil & Gas Co., Bristow | 5,000 | (*) | 1,300 |
| Wirt Franklin Petroleum Corp., Ardmore | 4,000 | 2,400 | 2,300 |
| Yale Oil Corp., Yale | 1,500 | 450 | 800 |
| Total | 310,800 | 193,750 | 198,300 |

*Shut down.

### REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| American Refining Properties, Wichita Falls | 6,000 | 2,000 | 2,000 |
| Archer Refining Co., Wichita Falls | 2,800 | 700 | 700 |
| Central Texas Refining Co., Angus | 4,000 | 1,500 | 2,000 |
| Central Texas Refining Co., Minerva | 2,000 | 600 | 900 |
| Continental Oil Co., Wichita Falls | 6,000 | 3,300 | 3,300 |
| Dale Oil & Refining Co., Electra | 4,000 | 3,400 | 3,400 |
| Empire Oil & Refining Co., Gainesville | 5,000 | 3,600 | 3,600 |
| Falls Refining Co., Wichita Falls | 2,000 | 1,000 | 1,000 |
| Gulf Refining Co., Fort Worth | 10,000 | 6,000 | 6,000 |
| Humble Oil & Refining Co., Breckenridge | 2,000 | 1,250 | 1,250 |
| Humble Oil & Refining Co., Chilton | 4,000 | 2,500 | 2,500 |
| Humble Oil & Refining Co., Neches | 5,000 | 1,000 | 3,000 |
| Superior Refining Co., Tiffin | 2,000 | (*) | (*) |
| Iowa Park Producing & Refining Co., Iowa Park | 2,500 | 1,250 | 1,250 |
| LaSalle Petroleum Co., Burkburnett (Noble) | 3,500 | 1,800 | 1,500 |
| Macmillan Petroleum Co., Isom | 8,000 | 6,000 | 5,000 |
| Magnolia Petroleum Co., Fort Worth | 12,000 | 4,300 | 4,800 |
| Magnolia Petroleum Co., Corsicana | 5,000 | 2,500 | 3,500 |
| Olney Oil & Refining Co., Olney | 2,000 | 2,000 | 2,000 |
| Oriental Oil Co., Dallas | 5,000 | 3,300 | 3,000 |
| Orient Petroleum Co., Wichita Falls | 2,500 | 800 | 800 |
| Panhandle Refining Co., Wichita Falls | 5,000 | 3,600 | 3,800 |
| Pampa Refining Co., Pampa | 4,000 | 3,500 | 3,500 |
| Phillips Petroleum Co., Isom | 10,000 | 8,000 | 8,000 |
| Primrose Refining Co., Wichita Falls | 2,500 | 1,500 | 2,000 |
| Simms Oil Co., Dallas | 5,000 | 3,400 | 3,400 |
| Star Refining & Producing Co., Fort Worth | 1,800 | 800 | 1,000 |
| Tarrant Refining Co., Grand Prairie | 2,500 | (*) | (*) |
| Taxman Refining Co., Wichita Falls | 2,500 | (*) | 2,000 |
| The Texas Company, Dallas | 16,000 | 16,000 | 16,000 |
| The Texas Company, Amarillo | 4,000 | 3,000 | 3,000 |
| Tidal Western Refining Co., Burkburnett | 3,000 | 2,000 | 2,000 |
| Texas Pacific Coal & Oil Co., Fort Worth | 3,000 | 1,800 | 2,000 |
| Transcontinental Oil Co., Fort Worth | 5,000 | 3,300 | 4,000 |
| Waggoner Refining Co., Electra | 3,400 | 2,500 | 2,500 |
| White Eagle Oil Corp., Fort Worth† | 6,000 | 2,000 | 2,000 |
| Total | 166,700 | 100,200 | 106,700 |

*Shut down. †Operated by Magnolia Petroleum Co.

(Continued on Page 140)

# SOUTHWESTERN RECTIFYING PLANTS

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## GAS AS A COMPETITOR

We have heard a lot in recent years of fuel oil as a competitor of coal, but it is time the oil industry was also giving some attention to natural gas as a competitor of fuel oil.

There can be no doubt that that competition has a large responsibility for the condition of the fuel oil market.

The almost country-wide expansion of gas lines has brought natural gas into competition with fuel oil for industrial use and with furnace oil for heating in many important markets.

The same tendency which led consumers to prefer fuel oil to coal as a superior fuel with advantages which offset the larger cost of initial installation and operation is working to supplant fuel oil with gas, the less bulky and smokeless fuel being considered worth a difference in cost where any exists.

The abundant supplies and reserves which the gas industry has developed in recent years offers an assurance of supply which was sometimes questioned in the choice of fuel oil against coal.

The production of natural gas has doubled within the past ten years and the government figures for last year, not yet available, will no doubt show an even greater percentage of increase in both production and consumption.

The time when coal and fuel oil were the sole competitors in great centers of industry and population far removed from the natural gas fields has passed.

Natural gas is displacing fuel oil or coal in industry at St. Louis, Kansas City, Birmingham, Atlanta, Memphis, Denver, Salt Lake City, San Francisco, New Orleans and Texas cities.

Lines to Chicago, to Omaha, Minneapolis and St. Paul, Seattle, and the northern Pacific Coast, have been under consideration while plans to transport it for mixing with artificial gas to the great eastern cities, New York included, have been regarded as more than a possibility in the near future.

It may as well be recognized that with the available reserves of natural gas it is only a matter of time when the big cities throughout the country will have this ideal fuel brought within reach in some form, natural or mixed artificial and natural.

Great strides have been made in lowering production costs of coal gas, water gas and other fuel gases. This manufacture of gas might equal in volume the quantity available from natural resources and tend to provide against any shortage for these gas lines should it ever develop.

The technologists who have secured larger yields and better products in the oil business are doing the same thing in the artificial gas industry.

A few years ago artificial gas was considered available for domestic use only by those in position to pay higher prices for the superior fuel, but is now being lowered in price so that its more general use is the result.

In the natural gas field, where it is possible to dispose of large volume, it has been found feasible to lower prices to where in many cases it competes with the cheapest fuel even in the industrial field.

All of this is a reflection of the trend which in time promises to result in all fuels being delivered to the consumer either as a refined liquid or as a gas.

The natural gas equivalent of fuel oil varies widely depending on the B.t.u. content of the gas and also the fuel oil, but taking a representative figure it may be calculated as a barrel of fuel oil being equal to about 7,000 feet of natural gas.

The production of natural gas in 1928 was 1,568,139,000,000 feet which was the equivalent of about 224,000,000 barrels of fuel oil.

Our production of fuel and gas oils in 1928 was 427,237,000 barrels.

Turning to the consumption of natural gas, the 1928 figures, the latest available from the government reports, show 320,877,000,000 feet used for domestic purposes; 573,698,000,000 feet in the field, drilling, pumping, operating gasoline plants, etc., for fuel at petroleum refineries, 114,950,000,000 feet; for carbon black manufacture, 175,137,000,000 feet, and other industrial purposes 383,317,000,000 feet.

The total consumption of natural gas for industrial purposes in 1928 showed an increase of 9 per cent, but with the pipe lines to the large cities connected in 1929 or about to be served with natural gas by lines under construction or to be constructed there should be a much more remarkable gain in the 1929 report and in a few years.

An example of the competition between fuel oil and natural gas was seen in the 1928 decline in the use of natural gas at refineries, from 123,395,000,000 feet in 1927 to 114,950,000,000 feet in 1928. The greater part of this decline was due to the displacement of some 7,500,000,000 feet of natural gas in Oklahoma where the low price of fuel oil led refineries to use it for fuel at their plants rather than hold it in the depressed market.

On the other hand the government report shows that the consumption of natural gas in the generation of electric power at public utility plants showed an increase of 23 per cent. The expansion of the natural gas business in Texas, California and Louisiana was responsible for this gain, but there is every prospect of it being greatly exceeded with the completion of the lines to the large cities in the Middle West and South.

Two years ago the interstate movement of natural gas increased from 194,400,000,000 feet to 241,000,000,000 feet and this was before most of the lines in the South were completed.

This growth of the gas division has been one of the most remarkable factors in the development of the public utilities within the past few years.

What effect this competition of natural gas in the domestic heating and industrial fuel markets will have on the fuel oil market may well engage the thought of the petroleum industry.

It has already been pointed out that the demand for crude oil in 1930 will be less than in 1929 due largely to the fact that the refining industry is recovering larger and larger yields of gasoline. The competition of natural gas with fuel oil will tend to limit further the demand for crude.

Fortunately the industries are interrelated so as to be natural allies rather than competitors. If they will co-operate and avoid wasteful duplication and senseless competition each can operate in its most profitable field without injuring the other.

The recovery of natural gasoline is an example of inter-industrial co-operation which is supplying the petroleum industry with between 10 and 11 per cent of our gasoline demand.

At the same time the development of liquefied gas from a natural gasoline by-product is supplying gas to a constantly growing market far removed from the channels of distribution. One company alone expects to serve 40,000 customers with liquefied gas during the present year.

# DRESSER

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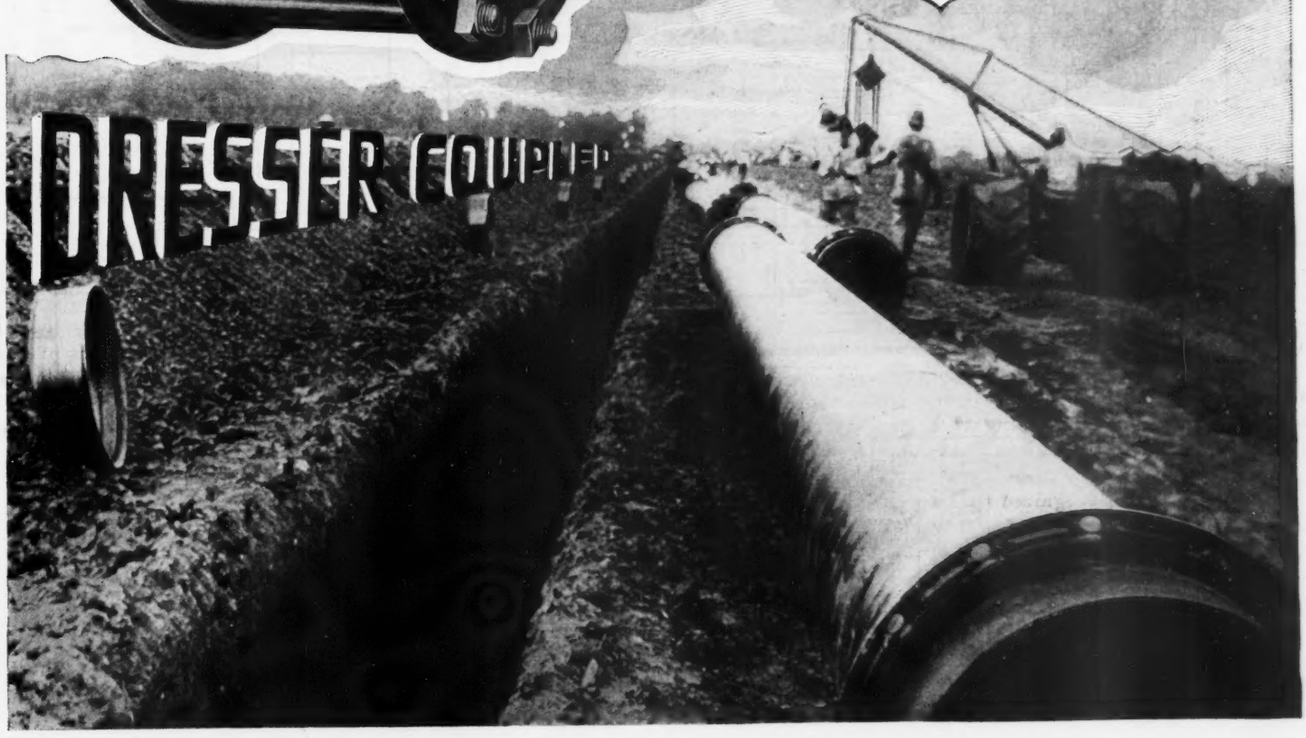


# Unique Features in New Type Still

## Several Products and Greater Capacity Secured in Redesigned Topping Unit at Lincoln Refinery. Operation Flexible

By W. T. Ziegenhain

The Lincoln Oil Refining Co. has just completed a revision of the topping unit in its refinery at Robinson, Ill., and the unit now includes several unique features. The plant manufactures lubricating oils and asphalt in addition to the other standard products, so the design and operation of the topping unit was necessarily outlined to best suit the needs of the entire plant.

Prior to the revision, the crude was heated to the maximum temperature in the pipe still and the cuts made in the respective towers in the usual manner. Now the incoming crude is split into two streams and each passes through a separate convection section of the pipe still. Here the crude is heated sufficiently to distill off the gasoline and kerosene and then the topped crude is returned to the still. This time the oil passes through the wall tubes and roof tubes where it is heated to 810° F. This temperature is maintained sufficiently high to yield a pressable wax distillate and reduce the crude to a low gravity residuum suitable for the subsequent processing into roofing and road asphalts.

The change required the addition of a 9 by 12-foot fractionating tower and two auxiliary stripping towers. These revisions, however, have had the effect of nearly doubling the capacity of the unit, have decreased the fuel requirements per barrel of crude processed, have made the gasoline and kerosene easier to treat and the control of the unit for the manufacture of wax distillate more exacting.

As originally designed, the unit topped 6,000 bbls. of Illinois crude daily. This crude has an average gravity of 32 degrees. After the revision, the crude charges were increased to 11,000 bbls.

### Flow Chart

The accompanying flow chart clearly depicts the present operation and requires only a brief discussion. In general, the crude is heated to 550° F. after passing through vapor heat exchangers and through a convection section of the pipe still. This temperature is sufficient to distill off approximately 20 to 36 per cent of the crude to make a 400 endpoint gasoline and a light kerosene, which are flashed off in the new tower. The balance, or the 64 per cent of the crude, is returned to the still and heated to 810° F.

The high temperature is maintained to produce a maximum lub yield and to induce "cracking" of the wax fraction, which in turn facilitates the separation of the wax and oil in the manufacture of lubricating oils. However, at this temperature some cracking of the heavier fractions takes place to produce a cracked gasoline. This fraction, together with any portion of the gasoline cut which was not previously recovered, is taken off as a second gasoline stream. Side streams of kerosene, light wax, heavy wax and gas oil are drawn at various points to make a complete list of overhead products from the unit.

### Trace Crude Flow

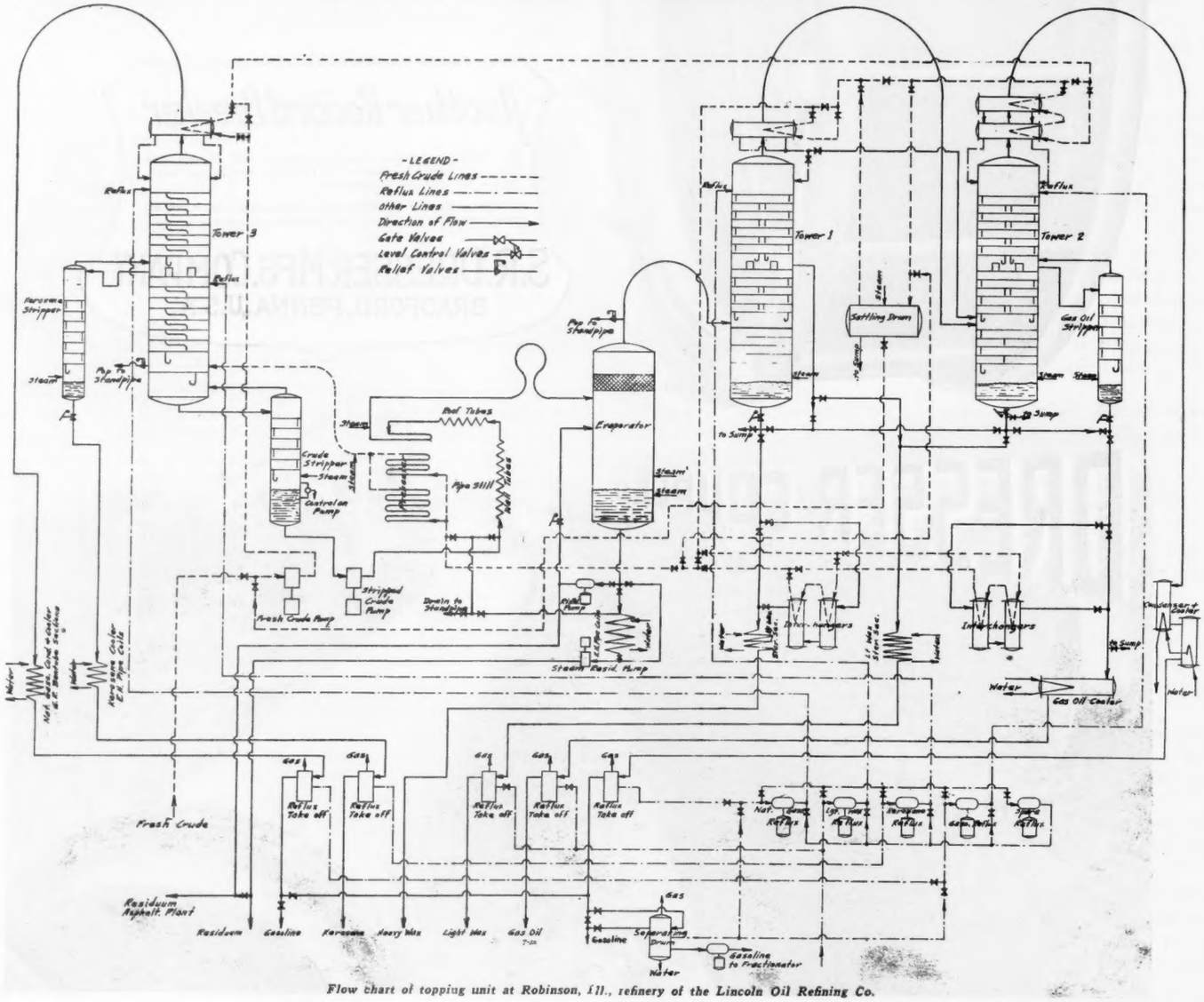
Tracing the flow of crude in detail through the unit, it is seen to first enter the vapor heat exchanger on what is termed here, No. 3 tower. This is the tower recently added and which handles the first 36 per cent fraction. Then the crude passes through two similar vapor heat exchangers on the second gasoline tower and called here, Tower No. 2.

At this point it is interesting to note the method adopted by the Lincoln Oil Refining Co. to reduce corrosion within the exchangers and towers. Approximately one gallon of 18 Be. sodium carbonate solution is drawn into the crude charging pump with every 30 bbls. of crude. This amount of sodium carbonate has been found sufficient to minimize corrosion but not sufficient to cause caking in the tubes of the still or on the bubble cap trays. Ordinary caustic solution was used at first but this deposited a hard cake on the tubes and has been replaced by the carbonate.

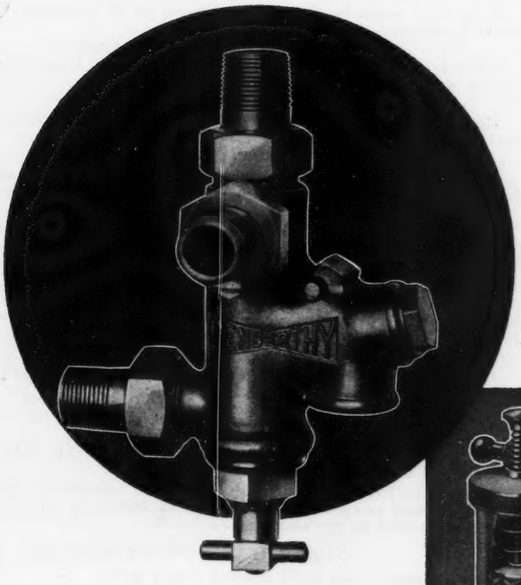
As the crude and the carbonate solution pass through the first exchanger, the mixture is heated and the chemical reactions are speeded up. After the mixture passes through the second series of exchangers, the reactions are completed and the heated crude goes into a 4 by 18-foot settling drum, where the excess carbonate solution drops out and is continuously drawn off to the sump.

The treated crude then passes through the vapor heat exchanger on what is

(Continued on Page 74)

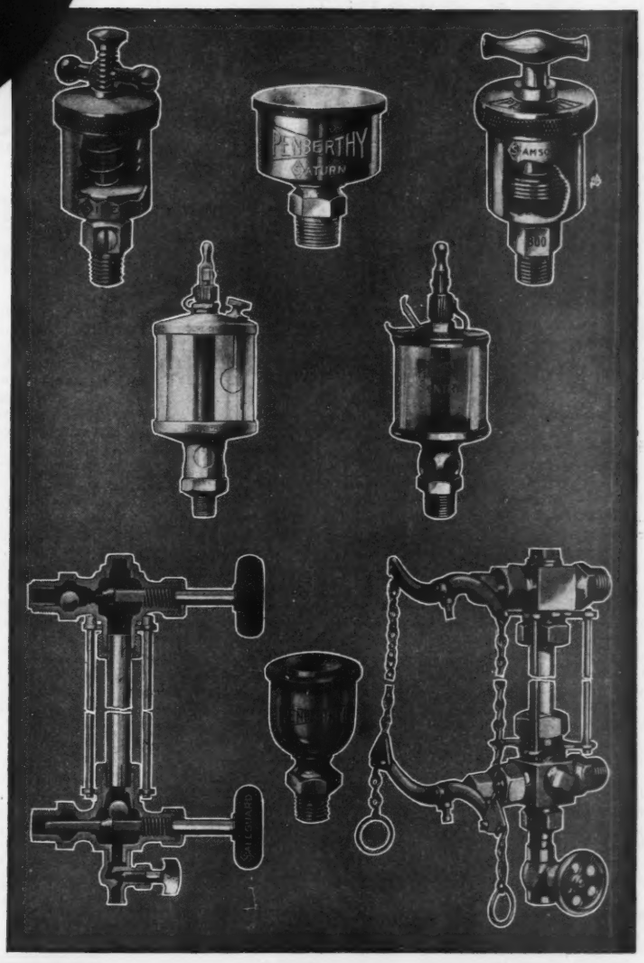



*Flow chart of topping unit at Robinson, Ill., refinery of the Lincoln Oil Refining Co.*



# ECONOMY SUGGESTS

PENBERTHY PRODUCTS

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# A.P.I. CENTRAL COMMITTEE ON UNIT OPERATIONS IS ANNOUNCED

By A. E. Mockler
*New York Bureau, The Oil and Gas Journal*

NEW YORK, Feb. 11.—Appointment of a central committee on unit operation to guide the work of the American Petroleum Institute along the line of unit development of oil pools was announced today at a joint meeting of the general committee of the Institute's divisions of production, refining and marketing.

W. N. Davis, of the Phillips Petroleum Co., Bartlesville, Okla., is chairman of the committee, appointed by President E. B. Reeser under the provisions of a resolution endorsing the policy of unitization adopted by the board December 3, 1929, at the annual meeting in Chicago.

The committee is assigned as a standing committee of the Institute's division of production.

Formal work of the newly organized divisions of the Institute was begun at separate meetings of the general committees at the close of today's joint session. The divisions, organized under a uniform plan, will enable members of the Institute engaged in the different branches of the petroleum industry to work in closer co-operation on problems directly affecting their interests, and at the same time will relieve the Institute's directors of much of the detail which it is believed can be handled better by the smaller groups.

**Existing Committees Retained**

Existing committees of the Institute are retained, but are allocated to pertinent divisions. Provision is made for the appointment of additional committees as well as the creation of groups of members as need arises in states where there is no existing organization. Especially in connection with the work of promulgating the general adoption of the National Code of Practices for marketing refined petroleum products state sections may be formed.

Executives of oil companies attending the joint meeting were urged to encourage their employes to work with the institute on the various problems affecting the industry in field, refinery and market.

The opinion was expressed that the growing co-operation now noticeable within the industry was due almost 100 per cent to the institute and that the broadened scope of activities provided by the new plan of divisional organization gives the institute far greater facilities for carrying on activities, new or already assigned, without duplication of effort.

**Unit Operation Committee**

In addition to Chairman Davis, members of the new central committee on unit operation are: T. H. Barton, Lion Oil & Refining Co., El Dorado, Ark.; Amos L. Beaty, Transcontinental Oil Co., New York; E. R. Brown, Magnolia Petroleum Co., Dallas, Tex.; J. R. Browne, General Petroleum Corp., Los Angeles; Axtell J. Byles, Tide Water Associated Oil Co., New York; Frank R. Coates, Henry L. Doherty & Co., New York; J. S. Cosden, Cosden Oil Co., Fort Worth, Tex.; Craig F. Cullinan, American Republics nell, Ohio Oil Co., Findlay, Ohio; W. S. Corp., New York; Henry M. Dawes, Pure Oil Co., Chicago; T. A. Dines, Midwest Refining Co., Casper, Wyo.; O. D. Don-

(Continued on Page 141)

# NO PROSPECT, SAYS W. S. FARISH, FOR ANY IMMEDIATE PRICE RESTORATION

By A. E. Mockler
*New York Bureau, The Oil and Gas Journal*

NEW YORK, Feb. 11.—There is no prospect of any immediate restoration of crude oil prices to the basis prevailing before the recent reductions by subsidiaries of Standard Oil Co. of New Jersey said W. S. Farish, president of the Humble Oil & Refining Co., here today. Mr. Farish, accompanied by President R. M. Young and James A. Veasey, vice president of the Carter Oil Co., has been in New York conferring with Walter C. Teagle, president of the Standard Oil Co. of New Jersey, on company matters. The conferences, Mr. Farish said, have not taken in a serious way the question of restoring crude prices. Wirt Franklin, proponent of a tariff on crude oil and gasoline imports, conferred with Mr. Teagle and Mr. Farish today supposedly on the question of domestic crude oil price and the import situation but nothing definite developed at the conference.

Discussing the crude oil situation informally, Mr. Farish said:

"There is nothing to add to what the Humble company has already said with respect to the crude oil price situation in its territory. We would be glad to restore prices to their old basis as soon as conditions permit but there is nothing in the situation at present to indicate that conditions have improved to the point justifying higher prices. We deliberated the crude oil situation for several months before we cut our price schedules and we did not make the reductions until market conditions had reached the point where such action was imperative. As a matter of fact, the drop in refined product prices had long ago indicated the wisdom of a lower price basis for crude. In my opinion declines in refined products markets in Oklahoma from the end of June to the close of 1929 lowered the value of a barrel of Oklahoma crude oil by fully 50 cents per barrel."

Concluding, Mr. Farish declared that his presence in New York at this time with officials of the Carter Oil Co. has nothing to do with any serious discussion of a restoration of crude price schedules to old price levels.

In discussing the general market situation Mr. Farish declared that, with California gasoline available in Atlantic Coast markets at 8 cents per gallon and under, a lowering of crude prices in territories affected by this competition was necessitated to protect refiners purchasing a large part of their crude requirements. Refiners with their own crude production have been in better position to hold their own under present competitive conditions caused by overproduction of both crude oil and gasoline, he said, but the refiner who is compelled to go into the market for his crude requirements has been at

(Continued on Page 146)

# Late Fields

### CANADA

CHATHAM, Ontario, Feb. 10.—In South Turner Valley, Calmont Oils' No. 1, LSD 11, Section 20-19-2w5, offsetting the Home producers, drilled into the limestone at 4,821 feet, a new high for this area.

### WEST TEXAS

FORT WORTH, Tex., Feb. 11.—In Ector County, Cosden Oil Co.'s No. 1-A, which topped the pay at 3,596 feet and was shut down at 3,654 feet when tools and 1,000 feet of wire line was lost in hole, is now being deepened after recovering the tools and line. No late production gauge has been reported.

### KANSAS

Empire Oil & Refining Co.'s No. 2 Voshel, SE cor. NE Section 9-21-3w, McPherson County, Kansas, has been drilled into the Wilcox sand to a total depth of 3,336 feet. The well swabbed 815 bbls. in 10 hours with no water showing. It offsets the discovery Wilcox sand well in the pool.

Derby Oil & Refining Co.'s No. 1 Stuckey, NE cor. SE, Section 9-21-3w, McPherson County, the discovery well in the Wilcox sand, has been drilled deeper to a total depth of 3,333 feet. No production test has been made since deeper drilling.

### GULF COAST

HOUSTON, Tex., Feb. 11.—West Production Co.'s No. 2 Foster, E. Votau Survey, on the north side of the old Humble shallow field, was completed Tuesday flowing an estimated 1,500 bbls. daily from sandy shale at 4,541 feet. This is the second well drilled there by this company, the first being completed as a small pumper. Humble Oil & Refining Co.'s No. 11 Brazos, Dewalt, Fort Bend County, was brought in Tuesday flowing an estimated 900 bbls. of oil from sandy shale at 3,725 feet. Humphreys Corp.'s No. 8-A Kirby, deep production discovery well on the northwest side of Barbers Hill, after more than a month of flowing between 7,500 and 10,000 bbls. daily of pipe line oil, has started showing water and Tuesday was making 12 per cent with 7,600 bbls. net oil.

### OKLAHOMA

Magnolia Petroleum Co.'s No. 1 Kiker, in Section 20-8-7, a wildcat test east of the Bowlegs Pool, in Seminole County, Oklahoma, has a showing of oil in the Wilcox sand at 4,203-11 feet. The company will make a production test.

The production at the Oklahoma City Pool was 87,071 bbls. on the gauge of February 11, at 7 a.m., from 18 out of a total of 94 wells.

Indian Territory Illuminating Oil Co.'s No. 1 P. Trosper, NW cor., Section 18-11-2w, was cleaning out at a total depth of 6,442 feet, where it made 45 bbls. of oil. It is the first oil the test has shown since it reached this depth. Same firm's

(Continued on Page 146)

# High Spots in Field News

**MICHIGAN**

Possible new oil pool northwest of Mount Pleasant Field, several miles from production.

**SOUTHWEST TEXAS**

Four new pools in Southwest Texas, in Williamson, Bee, Brooks and Duval Counties.

**NORTH LOUISIANA-ARKANSAS**

Wildcat gas well found south of Homer Field, Claiborne Parish. Zwolle district is looking better.

**EAST CENTRAL TEXAS**

Unit operation in Van Pool, Van Zandt County, endangered by threatened tests on two small tracts.

**CALIFORNIA**

Aggressive efforts being made to reduce State production to 609,000 bbls. Refiners to restrict runs to current needs.

**GULF COAST**

Gulf Coast production is over 200,000 bbls., increase largely due to Refugio Field which may exceed 40,000 bbls.

**KANSAS**

Increase in new work in Kansas fields, better weather prompting starting of delayed operations. Production due to increase soon but now stationary.

**ROCKY MOUNTAIN AREA**

Hobbs Pool defined to southeast and another test supposed to be close to eastern edge of Lea County Pool.

Salt Creek deep test reaching interesting stage.

**OKLAHOMA**

Amerada company's well, a south extension to old Earlsboro Field, makes 3,500 bbls. in 20 hours.

Production in Oklahoma increased 19,000 bbls. daily, Oklahoma City and East Earlsboro being chiefly responsible. More big wells in Oklahoma City Pool were added to the shut-in list.

**NORTH TEXAS AND PANHANDLE**

Cooke County may have opened a new pool.

Carson County has wildcat flowing 20 bbls. per hour, 11 miles from production.

Jack County well has 3,000 feet of oil in hole.

Potential discovery in Stephens County 3½ miles from production.

**WEST TEXAS**

Good well in Penn Pool, Ector County, extends area and may make it one of major pools in Permian Basin.

Semiwildcat producer 4 miles east of Hendricks Pool, Winkler County.

Gaines County test, between Lea County, New Mexico, and Andrews County, Texas, has showing of oil.

Yates Pool may be reduced 30,000 bbls. to 100,000 bbls.

Curtailment committee of Texas division, Mid-Continent Oil & Gas Association, to consult state officials.

# A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending February 8 follows:

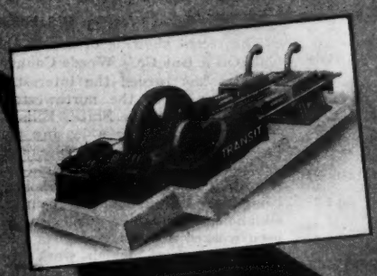
| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| East Coast | 100.0 | 3,181,600 | 7,892,000 | 6,850,000 |
| Appalachian | 91.0 | 623,500 | 1,528,000 | 686,000 |
| Indiana, Illinois, Kentucky | 98.6 | 1,843,200 | 7,070,000 | 3,068,000 |
| Oklahoma, Kansas, Missouri | 89.1 | 1,850,100 | 4,447,000 | 2,919,000 |
| Texas | 90.3 | 3,693,900 | 7,579,000 | 12,527,000 |
| Louisiana and Arkansas | 96.8 | 1,307,000 | 2,466,000 | 2,234,000 |
| Rocky Mountain | 93.6 | 379,000 | 2,674,000 | 1,022,000 |
| California | 99.3 | 4,129,700 | 15,641,000 | 109,651,000 |
| Total United States | 95.4 | 17,008,000 | 49,297,000 | 138,957,000 |
| Texas Gulf Coast | 99.4 | 2,870,100 | 6,534,000 | 9,821,000 |
| Louisiana Gulf Coast | 100.0 | 904,300 | 2,093,000 | 1,407,000 |

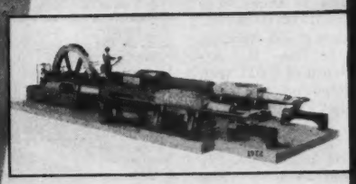
(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

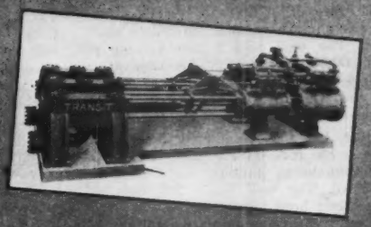
# TRANSIT

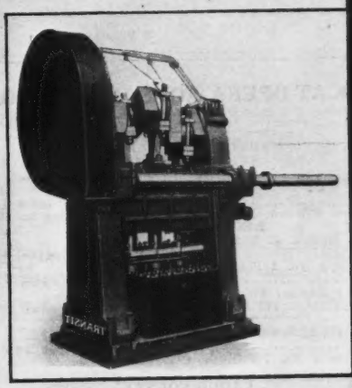
## *Reciprocating* HOT OIL PUMPS

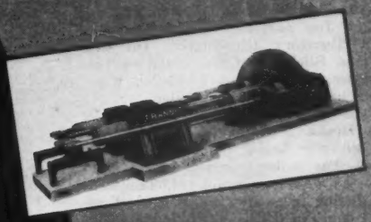
**Any Type**
**Any Size**
**For All Conditions of Service**

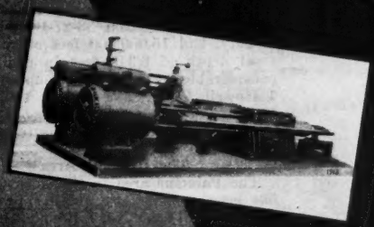


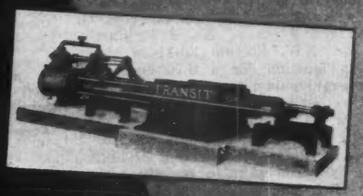



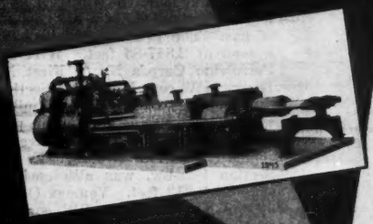


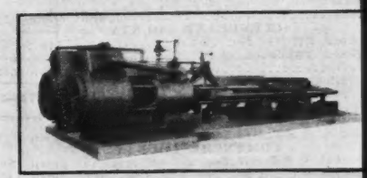


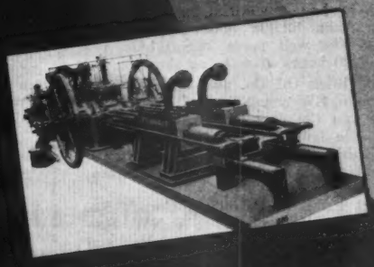



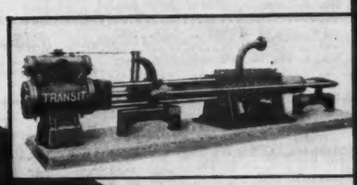










# Production Increases in Oklahoma

## Oklahoma City and East Earlsboro Responsible. More Big Wells in Oklahoma City Added to the Shut-In List

By W. A. Spinney
*Staff Correspondent, Oklahoma Fields*

Production in Oklahoma increased approximately 19,000 bbls. a day on the average for the week ending February 8, notwithstanding the efforts of the operators to curtail. The increase was largely in the Seminole Field and Oklahoma City. The total daily average for the State was 631,000 bbls. a day.

Oklahoma City Pool completed several new wells with a large potential production and new wells may be expected in that area almost every day for the next two months. The Palacine area in Stephens County in southern Oklahoma was extended by a new producer.

Indian Territory Illuminating Oil Co.'s No. 1 Farley-Fuzzell, SE cor. NW, Section 19-11-2w, Oklahoma County, blew in at the rate of 15,000 bbls. a day. The well was shut in when it started to show water. The well had a gas volume of about 60,000,000 feet. The separators began leaking and it was necessary to shut the well in without the usual 24-hour gauge. The total depth is 6,521 feet.

Coline Oil Co. completed its No. 5 Warren, SE cor. SW, Section 18-11-2w, in the northeast part of the Oklahoma City Pool. The well made 237 bbls. of oil the first hour, and 268 bbls. the second hour, with an estimated volume of 10,000,000 feet of gas. The oil came from the Arbuckle lime at a total depth of 6,523 feet. Just east of this producer, the Indian Territory Illuminating Oil Co. and Tom Slick Oil Co.'s wells on the Banta lease in Section 18-11-2w, were drilling below the producing horizon.

Indian Territory Illuminating Oil Co.'s No. 1 Drake, NE cor. SE SE, Section 14-11-3w, was bailed down and started flowing. The bailer was lost in the hole before the well was completed. The well is producing from the Simpson sand at a total depth of 6,357 feet. It made 4,631 bbls.

A new location has been announced 3 miles west of production in the pool. G. D. Warr and others' No. 1 F. Castle, SW cor. NW, Section 20-11-3w, have made a location for a 6,700-foot test. The operators own the NW, Section 20, NW, Section 19, and S half SW, Section 17-11-3w.

Skelly Oil Co. has opened its No. 1 Hoopes, NW cor. NE, Section 31-11-2w, which has been shut in for the proration period. The well flowed 1,242 bbls. the first hour. The well is the largest Simpson sand well in the Oklahoma City Pool. It had an initial production of better than 32,000 bbls. the first 24 hours. The well made 23,830 bbls. the second 20 hours after being shat in.

Tom Slick Oil Co. and others' No. 1 Huseman, SW cor. NW SW, Section 29-11-2w, on the east edge of the pool, a half mile from the nearest production, was fishing at a total depth of 6,216 feet, in what is believed to be the Simpson sand.

Wirt Franklin Petroleum Corp.'s No. 3 Lowery, NE cor. NW SW NW, Section 12-11-3w, blew in Saturday and made 1,300 bbls. the first hour, with a back pressure of 1,000 pounds. The well is producing from the Simpson sand at a total depth of 6,432 feet. It was also estimated to be making 50,000,000 feet of gas. The new well made 11,908 bbls. in 20 hours.

Indian Territory Illuminating Oil Co.'s No. 2 A. Brokaw, NE cor., Section 13-11-3w, made 400 bbls. the first hour. The well was bailed in and flowed 4,599 bbls. in 12 hours with 40,000,000 feet of gas.

The new well is located east of the Tom Slick Oil Co.'s well completed about a month ago for 24,000 bbls. the first 24 hours. The Indian Territory Illuminating Oil Co.'s No. 2 Brokaw is the most northeasterly producer in the pool. Same company's No. 1 S. Bodine, NW cor., Section 30-11-2w, made 65 bbls. of oil on February 7. It was the first oil the well has made this year. It was opened a short time ago and only flowed water. The well is a diagonal offset to the discovery well in the pool.

Three other large wells were completed during the week. Indian Territory Illuminating Oil Co.'s No. 3 A. Bodine, NW cor. NE SE, Section 24-11-3w, blew in with 40,000,000 feet of gas and 8,442 bbls. of oil the first 24 hours. The well made 393 bbls. the first hour. Oil was found in the Arbuckle lime at a total depth of 6,520 feet. The casing was set at 6,085 feet. Same company's No. 4 Button, NW cor. SW SW, Section 19-11-2w, was completed the same day for 6,996 bbls. of oil the first 24 hours. The volume of gas was about 35,000,000 feet. The well made as high as 555 bbls. in an hour. Oil is coming from the Arbuckle lime at a total depth of 6,511 feet. The other well completed on the same day was the same company's No. 9 Trosper, NW cor. SW SW, Section 13-11-3w. The well is producing from the Simpson sand at a total depth of 6,335 feet. It made 3,538 bbls. the first 24 hours. The gas volume was estimated at better than 50,000,000 feet.

The wildcat test of the Prairie Oil & Gas Co. and others, No. 1 Sudik, C NE NE, Section 8-10-2w, Cleveland County, was plugging back from a total depth of 7,720 feet, where a hole full of water was encountered in Wilcox sand. The test had three different showings of oil and gas while drilling and an attempt will be made to make a producer from one of these horizons.

### Shut-In Production

The initial production of the shut-in wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less was 374,756 bbls. Several new wells were added to the list last week. The initial production of each well was as follows and approximate dates wells will be opened:

| Company and lease— | Well No. | Bbls. | Date opened |
|---|---|---|---|
| Prairie: | | | |
| Hiddleston | 4 | 15,815 | 2- 7-30 |
| Sinclair: | | | |
| Stamper | 6 | 2,500 | 2-10-30 |
| I. T. I. O.: | | | |
| E. Fortson | 1 | 14,697 | 2-11-30 |
| Wheeler | 1 | 6,747 | 2-12-30 |
| Johnson | 2 | 946 | 2-16-30 |
| Slick: | | | |
| Zerkerle | 1 | 24,062 | 2-17-30 |
| I. T. I. O.: | | | |
| L. Canfield | 1 | 16,948 | 2-18-30 |
| Coline: | | | |
| Warren | 1 | 24,746 | 2-23-30 |
| Cromwell: | | | |
| Trosper Park | 11 | 7,653 | *2-24-30 |
| I. T. I. O.: | | | |
| Jennings | 1 | 23,285 | 2-24-30 |
| Jennings | 2 | 20,000 | 3- 6-30 |
| Prairie: | | | |
| Hiddleston | 5 | 9,185 | †3-14-30 |
| Shell: | | | |
| Petty | 6 | 3,444 | 3- 1-30 |
| I. T. I. O.: | | | |
| Jennings | 3 | 18,307 | 3- 1-30 |
| Peterson | 1 | 1,025 | 3- 7-30 |
| N. Emerson | 2 | 2,750 | 3- 3-30 |
| Wheeler | 2 | 22,846 | 3-10-30 |
| Sinclair: | | | |
| Stamper | 4 | 690 | 3-11-30 |
| I. T. I. O.: | | | |
| Mackey | 1 | 97 | 3-15-30 |
| Coline: | | | |
| Clauer | 3 | 4,609 | 3-21-30 |
| I. T. I. O.: | | | |
| Fortson-Farley | 1 | 8,995 | 3-22-30 |
| Canfield-Button | 1 | 15,675 | 4- 1-30 |
| Shell: | | | |
| Petty | 7 | 1,197 | 4- 1-30 |
| I. T. I. O.: | | | |
| L. Farley | 1 | 30,438 | 4- 1-30 |
| Drake | 2 | 8,780 | 4- 3-30 |
| Watters | 3 | 1,000 | 4- 3-30 |
| G. Button | 3 | 11,118 | 4- 5-30 |
| A. Bodine | 5 | 13,520 | ‡4- 8-30 |
| Wilke Anderson | 2 | 8,390 | 4- 7-30 |
| Trosper | 8 | 3,594 | ‡4- 7-30 |
| Trosper | 10 | 16,136 | 4-10-30 |
| Farley Fuzzell | 1 | 79 | §4-14-30 |
| Bodine | 3 | 8,442 | 4-13-30 |
| Button | 4 | 6,996 | 4-13-30 |
| Trosper | 9 | 3,538 | 4-13-30 |
| A. Brokaw | 2 | 4,599 | ‖4-15-30 |
| Franklin: | | | |
| Lowery | 3 | 11,908 | †4-17-30 |
| Total | 37 | 374,756 | |

*Eighteen hours. †Nineteen hours. ‡Fifteen hours. §Three minutes. ‖Twelve hours.

### Interest in Western Oklahoma

The recent showing of gas in the Sinclair Oil & Gas Co.'s Woods County wildcat test has turned the interest of the oil fraternity to the northwestern and western parts of the State. Ellis County has been undergoing a leasing play the past few weeks. Six large blocks of acreage have been completed and put on record. Considerable checkerboarding is being done throughout the county. The Oklahoma Panhandle has also recently been worked over by geologists and magnetometer crews, which work was followed by core drills. Acreage in the three counties in the Panhandle is about 80 per cent leased.

Sinclair Oil & Gas Co.'s No. 1 Stewart, SE cor. SW Section 33-27-16w, Woods County, had 15,000,000 feet of gas at a total depth of 6,345 feet in shale, and considerable water. Same company's No. 1 Howell, C SW SW Section 14-26-24w, Harper County, was drilling at 7,120 feet. It is the deepest drilling test in the area.

### The Palacine Area

The Palacine area in Stephens County has been extended by another producer. Dun-Mar Oil Co.'s No. 1 Randle, SE cor., Section 8-2s-6w, has extended production a half mile southeast. The new well flowed 456 bbls. the first 19 hours and had an estimated flow of 8,000,000 feet of gas. The production is coming from a sand at 2,847-83 feet. Wirt Franklin Petroleum Corp.'s No. 1 First National Bank, NW cor. NE NW, Section 8-2s-6w, Stephens County, a half mile northwest of the production in the pool, was coring sandy shale at 3,181 feet. Same company's No. 1 Brooks, SE cor. NE, Section 8-2s-6w, was also coring sandy shale at 3,212 feet. Venmex Oil Co. and others' No. 1 Andrea, SW cor. NE SE, Section 5-2s-6w, Stephens County, a half mile north of production, was drilling in sandy shale at 3,310 feet, after coring sandy shale at 3,293-3,304 feet. A community test, 2½ miles northwest of the Palacine Field, being drilled jointly by Wirt Franklin Petroleum Corp., Gypsy Oil Co. and Twin State Oil Co., No. 1 G. McCurtain, NW cor. SE, Section 1-2s-7w, was preparing to rig up the tools.

### Deeper Drilling in Caddo County

Deeper drilling in the Cement Pool in Caddo County, is bringing operators profitable producing wells. Louisiana Oil Refining Co.'s No. 1 Caddo-Rowe, SW cor. NW NE, Section 26-6-10w, Caddo County, an old well drilled deeper to a total depth of 3,274 feet, flowed 366 bbls. the first 24 hours. English Drilling Co.'s No. 3 Abernathy, NW cor. NW SE SE,

(Continued on Page 120)

## WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

### NORTHERN OKLAHOMA

#### ALFALFA COUNTY

Company, farm and location— Remarks:

Smith Bros.' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w ..... Shut down 1,232 ft.

J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w .. Rigging up standard tools 4,660 ft.

#### BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w ..... Drlg. 2,500 ft.

Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w ..... Shut down 2,402 ft.

Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w ..... Shut down 1,575 ft.

#### BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down.

Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 12-19-10w ..... Shut down 2,935 ft.

#### CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w. Shut down 525 ft.

W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

#### CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1 ..... Drlg. 540 ft.

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut down 3,130 ft.

Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w ..... Wilcox 7,716-20 ft.; water; shut down.

#### COAL COUNTY

W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e .... Shut down 1,235 ft.

#### COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w .... Shut down 150 ft.

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w.. Shut down 4,055 ft.

#### GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w ..... Shut down 200 ft.

Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w ..... Drlg. plugs 4,725 ft.

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Shut down 5,566 ft.

#### GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w .. Spudded and shut down.

J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.

#### GRANT COUNTY

Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w. Drlg. 5,425 ft.

Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w ..... Rig on ground.

Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w .. Shut down 4,737 ft.

Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Shut down 5,640 ft.

Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w ..... Shut down 3,250 ft.

#### GARVIN COUNTY

Nelson et al's No. 1 Strickland, NE SW Sec. 10-4-3 .... Shut down 109 ft.

Pickham-Harris' No. 1 Community Gaines, C NW NE Sec. 11-4-1 ..... Drlg. 100 ft.

#### GREER COUNTY

Helmerich & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w. Fishing 2,205 ft.

I. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w ..... Drlg. 2,100 ft.

(Continued on Page 155)

"Oilwell" Timken-Equipped Steam Drilling Engine In Service at Earlsboro, Oklahoma.

TIMKEN BEARING EQUIPPED

# For Power Insurance

Constant, adequate and unfailing power for rotary drilling was the aim of the Oil Well Supply Company, Pittsburgh, Pa., in designing this 12 x 12 twin cylinder steam engine. Naturally, the crankshaft is Timken Bearing Equipped.

In both steam and gas engines, the crankshaft is the vital link in power application, hence the importance of the crankshaft bearings.

Timken Bearings not only enable the crankshaft to transmit the full power generated in the cylinders by eliminating friction, but also protect the shaft against radial-thrust and shock loads, uneven cylinder pressures, vibration, torsional strain and wear.

Operating and maintenance economies and long life are further emphasized by the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken-made steel.

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*AS GOOD AS THE CHAMPION DERRICK*

A heavy, rolled steel girder section forms the basis of Moore Walking Beam strength. It has electrically welded web and flange stiffeners at nose, tail, saddle and intermediate points. The cast steel temper screw bearing support is secured to the beam by both rivets and electric welding. Removable temper screw bearings ordinarily furnished are of babbitted cast iron. Hard wood bearings can be supplied.

There are beams for pumping or cable drilling. Of special interest is the underslung type for pumping service, which is pictured above. With this design the deflection of the polish rod is very slight and even the longer stroke wells can be pumped without special rod hangers. The cable drilling beam has the temper screw bearing on top instead of being underslung.

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SHREVEPORT, LA. HOUSTON, TEXAS

Stocks in All Principal Fields

# Increase in New Work in Kansas

## Better Weather Prompts Start of Delayed Field Operations. Production Stationary but Increase Is Soon Due

By W. A. Spinney
*Staf. Correspondent, Kansas Fields*

Oil production in Kansas has been holding steadily for several weeks. It is expected to show a big increase when the tests now drilling in the Voshel Pool reach the pay horizon. The increased production in that area is expected by the first of March. The State's average daily production for the week ending February 8 was 110,300 bbls. Rice County values have increased with the discovery of oil in the Wilcox sand. The new operations for the week ending February 8 in the State show an increase with the coming of warmer weather.

The discovery well in the southwestern part of Rice County, Slick, Pryor & Lockhart's No. 1 Schurr, in Section 21-29-10w, which has been pumping around 50 bbls. a day from a total depth of 3,289 feet, will be deepened to the Wilcox sand.

The seven producing wells in the Voshel Pool in McPherson County, have an estimated potential production of 11,000 bbls. a day. Production in each well is pinched to 50 bbls. a day under the present proration plan, which expires February 15. The new proration plan which is 75 per cent curtailment will permit approximately 3,000 bbls. a day production in the pool from present wells. Operators at first decided to produce from 25 to 50 per cent from February 15 to March 15. Later they decided to produce only the minimum amount in order to handle the newer wells which are expected to be completed by the last of the month. The operators decided to allow each well to produce 25 per cent of its potential during the first 15 days of the new plan, beginning February 15.

Kansas oil development is now confined to the area west of Greenwood County. In 36 counties west of Greenwood there are 209 operations. Some predict a drilling campaign in eastern counties in the early spring, especially in Coffey, Anderson, Woodson, Chase and Greenwood. Operators during the last year have assembled blocks and checkerboarded acreage in those counties and the geologists have been working in the areas for some time. Considerable shallow production has been found and more is expected.

McPherson County holds the center of interest in the State. A total of 58 operations and locations have been made since the first of the year.

### Wilcox Pay in Rice County

Rice County is now in the limelight, since the Wilcox sand was found productive of oil. The highest gravity producer in the State was found in the county by Slick, Pryor & Lockhart. The offset to that well was dry in the same formation but with deeper drilling it has encountered a new pay horizon which some believe to be the Wilcox sand. It was the Producers & Refiners Corp.'s new well, the north offset, which is swabbing around 650 bbls. a day from the pay at 3,330-31 feet.

Early last summer operators in the State were of the opinion that Ellis County was a large reservoir of oil and that the county would be one of the major producing counties in the State. Since that time wells completed in that county have been relatively small producers or dry holes. The county has 14 oil wells with a daily average production of about 800 bbls. a day, which is an average of around 45 bbls. per well. The development of the oil and gas is expected to be slow as it is a considerable distance from a pipe line and one company has installed a small system of gathering lines with a loading rack in the center.

### Revival in Elk County

The new production in Elk County is believed by many to be the forerunner of a drilling campaign. New operations started during the week were National Refining Co.'s No. 1 Shambaugh, SW cor. NE NE Section 21-28-9, and Fleming and others' No. 1 Rader, NW cor. Section 16-29-9.

McPherson County leads the State in new operations with total of seven. Butler and Sedgwick Counties had two each, and six other counties one each. The State had a total of 17 new operations for the week. Three of the new operations were by the Derby Oil & Refining Co. on its Stuckey lease in the Voshel Pool in McPherson County. No. 5 in the SW cor. NW SE; No. 6, SE cor. NE SE; No. 7, SW cor. NE, all in Section 9-21-3w. Other McPherson County locations are, Gypsy Oil Co.'s No. 1 Stuckey, SW cor. SE SW, Section 10-21-3w, located on the southeast edge of the Voshel Field; Prairie Oil & Gas Co.'s No. 3 Stuckey, NE cor. NW SW, Section 10-21-3w; Sinclair Oil & Gas Co.'s No. 5 Voshel, SE cor. SW NW, Section 10-21-3w, and The Texas Company's No. 1 Stuckey, NW cor. NE SW, Section 10-21-3w.

The two Sedgwick County operations were in the Greenwich district. Shell Petroleum Corp.'s No. 1 Stolle, CWL NE SW, Section 11-26-2. The other Sedgwick County operation was the Shell Petroleum Corp. and Jones and others' No. 1 on the townsite of Greenwich in the SE cor. SW, Section 15-26-2.

### A Community Test

A community test by Empire Oil & Refining Co., The Texas Company and Phillips Petroleum Co. will be another attempt to extend the production in the area. The test will be a quarter mile from other production in Section 33-27-7. The other new operation by Lario Oil & Gas Co., a location east of the recently completed Empire Oil & Refining Co.'s No. 13 Cranston, in the Haverhill district. The new test is located in the NW cor. SW, Section 23-27-5, Butler County.

Greenwood County's new operation is the Empire Oil & Refining Co.'s No. 8 C. Patterson, SE cor., Section 36-23-11. Coffey County has the Mission Oil Co.'s No. 2, C NW NW, Section 21-31-6, which is a location. In western Kansas the Barbara Oil Co.'s No. 1 A. Alexander is located in the C NW NW, Section 24-33-13w, Barber County. Reno County has a new wildcat location by M. M. Valerius and others, No. 1 Stevens, NE cor. SE NE, Section 6-26-7w. Rush County has Skelton and others' No. 1 Andrews, NE cor. NW, Section 9-18-18w, about 5 miles south of La Crosse.

A summary of operations in the State follows: McPherson 58, Sedgwick 16, Sumner 14, Ellis 10, Rice 10, Cowley 14, Butler 12, Harvey 7, Russell 7, Stevens 5, Trego 5, Barber 4, Reno 4, Dickinson 4, Rush 3, Pratt 3, Saline 3, Barton 2, Edwards 3, Ford 2, Hodgeman 2, Kingman 2, Osborne 2, Pawnee 2, Scott 1, Clarke 1, Ellsworth 1, Harper 1, Norton 1, Sheridan 1, Smith 1, Stafford 1, Clay 1, Marion 1 and Graham 1.

### Good Well in Greenwood

Prairie Oil & Gas Co.'s No. 2 Newhouse, NW cor. NE NE, Section 1-24-11, Greenwood County, swabbed 640 bbls. from the Bartlesville sand at 1,712-92 feet, after a 100-quart shot. Derby Oil & Refining Co.'s No. 1 Beaver, a wildcat, in Section 25-24-12, in the eastern part of Greenwood County, has a hole full of oil from the Bartlesville sand at 1,618-53 feet. The test is to be given a shot as soon as tankage is erected and a pipe line connection made.

Swain Oil Co.'s No. 1 Taylor, C NW, Section 21-25-24w, Ford County, has had the second showing of gas at 520 feet. The first showing was found at 400 feet. The test was drilling ahead at 900 feet. The formations in the test were reported to be running favorably on the structure.

The wildcat test of the McPherson Oil & Gas Co.'s No. 1 Nixon, NE cor. W half NW, Section 36-24-9, Greenwood County, has resumed drilling after being shut down on account of the cold weather at 1,040 feet. Production is expected in the Bartlesville sand at 2,200 feet. The test is expected to locate the trend southeast of the Golden Lane at its junction with the Agard Pool. The test is located on an 800-acre block. Same company has announced a new location north of Halstead, in Harvey County. The test is No. 1 Palmer, C SW NE, Section 36-22-2w. The test is 1½ miles north of the Haury well which was completed as a gas well the middle of last summer. The same company has also staked a location in the SE cor., Section 11-23-2w, Harvey County.

Producers & Refiners Corp.'s No. 1 Thompson, in Section 21-20-10w, Rice County, swabbed 300 bbls. the first 14 hours. The hole was full of oil when the swabbing was begun and the fluid could not be lowered below 700 feet. The well was averaging 26 bbls. an hour. Another swabbing test is expected to be made when additional tankage has been erected.

Another well was added to the Burden district in Cowley County. Lewis Production Co.'s No. 4 Pierce, NW cor. NE SE, Section 30-31-6, has oil in the Bartlesville sand at a total depth of 2,940 feet. It will be given a shot and a production test made. The new well is located southwest of the new gas production and a half mile north of the discovery well in the area.

Skelly Oil Co.'s No. 1 Brikett, NE cor. SW, Section 30-24-7w, Reno County, has a hole full of water in the Wilcox sand at 4,172-90 feet. The wildcat test is located northeast of Arlington. The test may be drilled to the Silicious lime.

### Barber County

Barbara Oil Co. made location for No. 2 Alexander, C NW NW, Section 24-33-13w.

### Butler County

Lario Oil & Gas Co. has the rig up for No. 1 Nixon, SW cor. NW SW, Section 23-27-5. Sanford and others' No. 1 Covert, NE cor. SW, Section 10-28-5, is dry and abandoned at 3,005 feet.

### Chautauqua County

Griffin & Bell's No. 7 Oliver, NW cor. SW SE, Section 1-32-10, has been completed for 4,000,000 feet of gas in sand 1,965-84 feet.

### Cowley County

Mission Oil Co. has the rig up for No. 2 Martin, CSL N half NW NW, Section 21-31-6. No. 1 Martin, C NW NW, Section 21-31-6, has been completed for 10,000,000 feet of gas in sand 1,612-18 feet. Roth & Faurot's No. 1 Reidy, NE cor. SE, Section 31-31-8, made 85 bbls. in sand 1,926-85 feet. Wilson and others' No. 1 Peacock, NW cor. SE, Section 36-32-4, has been abandoned at 1,441 feet. Hull and others' No. 7 Bartlow, SE cor. NW NW, Section 19-32-5, is a dry hole at 3,027 feet.

### Greenwood County

Empire Oil & Refining Co. has the rig up for No. 8-C Patterson, SE cor., Section 36-23-11. Dixie Oil Co. and Amerada Petroleum Corp.'s No. 4 Ellis, SE cor. NW NW, Section 22-23-11, made 75 bbls. in sand 1,865-29 feet. Empire Oil & Refining Co.'s No. 5-C Patterson, SE cor. SW SE SE, Section 36-23-11, has been completed for 395 bbls. in sand 1,667-80 feet. The Prairie Oil & Gas Co.'s No. 2 Newhouse, NW cor. NE NE, Section 1-24-11, made 640 bbls. in sand 1,794-96 feet. Waltom Oil Co.'s No. 2 Dalton, NW cor. SW NW, Section 5-24-13, is dry and abandoned at 1,644 feet. Young and others' No. 1 Bowman, CEL SE NW, Section 7-24-13, has been completed for 15 bbls. in sand 1,673-38 feet.

### McPherson County

Derby Oil Co. made location for No. 5 Stuckey, SW cor. NW SE, Section 9-21-3w, Voshel Pool. Location has been made for No. 6 Stuckey, SE cor. NW SE, Section 9-21-3w. The rig timbers have been moved in for No. 7 Stuckey, SW cor. NE SE, Section 9-21-3w. Shell Petroleum Corp. made location for No. 5

(Continued on Page 107)

## WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

| Company, farm and location— | Remarks: |
|---|---|
| **BARBER COUNTY** | |
| Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w | Shut down 4,580 ft. |
| Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w | Drlg. 3,955 ft. |
| **BARTON COUNTY** | |
| Prairie's No. 1 Davidson, NW SE Sec. 4-16-11w | Underreaming 15-in. casing 525 ft. |
| Slick et al's No. 1 Sweeney, SW NE Sec. 23-17-11w | Drlg. 3,340 ft. |
| Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w | Shut down 3,948 ft. |
| **BUTLER COUNTY** | |
| Shell Petroleum Corp.'s No. 1 Harper, SW NE Sec. 35-26-3 | Shut down 2,085 ft. |
| Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3 | Shut down 1,930 ft. |
| **CHASE COUNTY** | |
| Urschell et al's No. 1 Lipps, C SW SW Sec. 27-18-6 | Drlg. 110 ft. |
| Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6 | Shut down 500 ft. |
| Steinbuckel et al's No. 1 Cook, SE cor. Sec. 21-19-8 | Shut down 900 ft. |
| E. W. Marland, Inc.'s No. 1 Altemus, SE NE Sec. 33-18-6 | Shut down 2,550 ft. |
| **CLAY COUNTY** | |
| Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3 | Shut down 50 ft. |
| **CHAUTAUQUA COUNTY** | |
| Valentine Oil Co.'s No. 1 Purcell, NW SE SW Sec. 2-33-9 | Spudding. |
| **COWLEY COUNTY** | |
| Prairie O. & G. Co.'s No. 1 Dosbaugh, SE cor. Lot 27, Sec. 18-32-8 | Rig. |
| Edenfield & Fair's No. 1 Wallace, CWL NE Sec. 17-34-4 | Shut down 365-75 ft.; 2,000,000 ft. gas. |
| Fine et al's No. 1 Brown, SE cor. Sec. 8-32-4 | Drlg. 2,120 ft. |
| Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6 | Shut down 1,920 ft. |
| **DICKINSON COUNTY** | |
| Cress' No. 1 Sanden, NE cor. Sec. 12-15-2 | Rig. |
| Prairie's No. 1 Lachard, C NW SW NE Sec. 12-16-2 | Drlg. 2,080 ft. |
| Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2 | Spudding. |
| Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4 | Shut down 2,390-2,400 ft.; water. |
| E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1 | Shut down 150 ft. |

(Continued on Page 156)

# Four New Pools in Southwest Texas

## Williamson, Bee, Brooks and Duval Counties, Widely Separated, Report Important New Strikes of Oil and Gas

By B. D. Stevenson
*Staff Correspondent, Southwest Texas Fields*

SAN ANTONIO, Tex., Feb. 10.—Four new oil strikes are engaging the attention of oil men in Southwest Texas and promise to keep things very active in this part of the country all through the year. Enough new territory has been opened up to warrant the belief there will be no natural decrease in production in Southwest Texas this year. Proration may hold it down but will scarcely result in the total production being less than in 1929. Production in 1929 was a little over 28,000,000 bbls. compared with a little over 10,000,000 bbls. the year before. New fields opened up are practically sure, in spite of any possible proration, to increase the total above that of 1929.

### 1,000-Bbl. Well in Williamson

E. L. Chapman's No. 1 Abbott in the Simon Miller Survey in eastern Williamson County is a real oil well and the latest authentic information is that it flowed 1,000 bbls. in 24 hours. Casing is set at 1,792 feet and total depth is 1,830 feet. It is one of the four new places engaging the attention of the industry in the San Antonio area at this time.

### Good Well in Bee County

Another important spot is the Pettus area in Bee County which has been in the limelight for a year, it having been approximately a year ago that the discovery gas well came in at 2,890 feet. Houston Oil Co.'s No. 1 J. J. McKinney, a mile south of it is an oil well flowing at the rate of about 700 bbls. a day on choke at 3,871 feet. The oil is 43 gravity.

Considerable acreage in that part of Bee County is in the hands of independent operators. Union Producing Co.'s No. 5 Ray, an offset to No. 1 McKinney of the Houston Oil Co., is down about 600 feet, with casing set. Morgan Oil Corp. (William F. Morgan) has made three locations. One mile southwest of Pettus and 2 miles southwest of the Houston Oil Co.'s No. 1 McKinney, Morgan Oil Corp. has derrick up in the northeast corner of the John W. Williamson Survey, the test being his No. 1 Ray in that survey, the Ray tract containing 936 acres. It will be spudded in this week.

Morgan Oil Corp. also has secured a block immediately north of the Union Producing Co.'s 17,000-acre block and late last week was spudding in on the George Ray 627-acre tract in the Pedro Trevino Survey in Goliad County, 8 miles northeast of the Houston Oil Co.'s No. 1 McKinney and 1 mile north of F. P. Zoch's No. 1 Kaufman which is a 40,000,000-foot gas well at around 4,200 feet.

### Brooks County Area

Houston Oil Co.'s No. 1 Wormser-Holbien, which was reported in the late field news last week as flowing initially at the rate of 300 bbls., started making considerable water and was put on choke and late reports show it flowing 20 bbls. of oil an hour, and no water. A little to the northwest of this a geophysical high was worked out by one of the big companies and some geologists believe No. 1 Wormser-Holbien is an east edge well. At any rate The Texas Company bought considerable acreage in the territory and other major companies have strengthened their position by buying almost anything that is available. Oil from No. 1 Wormser-Holbien is 45 gravity. As yet no new locations have been made with the exception of the joint test of the Humble Oil & Refining Co. and the Shell Petroleum Corp. about 4 miles south and slightly east. It is drilling in shale below 2,000 feet.

### O'Hern-Seacord Pool

The fourth hot spot in Southwest Texas is in southwestern Duval County where Magnolia Petroleum Co.'s No. 1 Brennan Benavides, 4 miles southeast of Bruni was reported two weeks ago as a 300-bbl. oil well at 2,777 feet. The same company's No. 4 Brennan Benavides on a drill stem test showed gas and oil at 3,070 feet but has not been completed. Operators in that territory have not started to make new locations but something will start immediately. Wilkins Seacord owns the offset acreage to No. 1 Brennan Benavides and has about 1,000 acres in that territory. It is presumed a test will start soon offsetting the Magnolia well.

### Miscellaneous Happenings

Pearson Oil Co.'s No. 4 Mangold in the Isam Parker Survey in Medina County a mile southeast of Noonan on the Southern Pacific Railroad, at 765 feet total depth and with a few joints of 10-inch surface casing set and cemented, blew in and ran wild and is estimated as a 50,000,000-foot gas well. It is an enormous amount of gas from that depth. Last Saturday it was choking up, evidently from cavings, but would choke only for an instant and then clear itself. But whenever it choked up, gas would issue from many points about the well. It was giving the owners considerable concern.

Some months ago a little oil was discovered in Serpentine in that territory by the same company and also a small gas well was completed at about the same depth as No. 4 Mangold but the gas volume in No. 4 Mangold is creating new interest in that territory.

Also the Laredo territory, unworried by the present overproduction, added new interest. Blair & Acklin's (now Blair & Son and Claggett) No. 2 Trevino in Zapata County in Survey 66 is standing 800 feet in oil and cannot bail to the bottom. It is estimated good for 50 to 100 bbls. on the pump. Total depth is 1,254 feet. It is in the territory between the Jennings gas field a few miles west and north in Zapata County and the Randado oil field 5 miles east in Jim Hogg County. H. Muckelroy, Jr., brought in No. 1 Trevino some months ago in the same territory but it made only a small well. Other wells have been drilled around there but with more or less indifferent success. This last seems to have found the pay in good quantity and makes it appear a very promising area.

O. W. Killam last week completed his No. 19 Cuellar at 1,557 feet flowing at the rate of 500 bbls. of oil a day. This test is due east of the Jennings gas field and a few miles north of the Blair & Acklin No. 2 Trevino, and is about as big a well as has been found in that territory.

### Victoria County

Humble Oil & Refining Co.'s No. 1 Jay Waelder in the Nursery section in northern Victoria County was bailing for two days and nights and the company officials left disappointed. Along with them went the big company scouts. Then the well blew in estimated at 4,000,000 feet of gas and spraying 10 bbls. of oil. When closed in it developed a bad looking leak around the master valve. The well is 9 miles north of Victoria and in a territory where the Humble has a big block of leases and where the structure was worked out by drilling a large number of shallow core tests which developed considerable gas volume at shallow depth. The oil from No. 1 Waelder is very high gravity, guessed offhand at about 50°. The well showed some salt water also. Total depth is 5,896 feet and the well has been killed and a packer will be set in an effort to shut off the salt water and bring the well in again.

### Zavala County

Weigand Brothers are drilling No. 1 Gates in Zavala County 15 miles south of Batesville and lately major companies have been showing an interest in that territory. Carl Cromwell has made a location on a block he has north of the Weigand Brothers' No. 1 Gates. In Frio County, next east from Zavala, the Mid-Kansas Oil & Gas Co. is rigging up the No. 1 Jessie Newton on Gulf Production Co.'s lease. The Humble Oil & Refining Co., Pure Oil Co., Continental Oil Co. and Sun Oil Co. all hold big leases in that territory.

### SOUTHWEST TEXAS PRODUCTION

| | |
|---|---|
| Bee County | 214 |
| Branyon | 15 |
| Brooks | 34 |
| Buchanan | 58 |
| Bruner | 26,213 |
| Dale | 414 |
| Darst Creek | 17,454 |
| Kingsville | 176 |
| Larremore | 87 |
| Luling | 9,215 |
| Lytton Springs | 757 |
| Manford | 639 |
| McMullen County | 34 |
| Medina County | 22 |
| Mirando | 8,894 |
| Somerset | 1,700 |
| Yoast | 735 |
| Total Southwest Texas | 66,652 |
| Week ending February 1 | 65,649 |
| Decrease | 1,003 |

## WILDCAT OPERATIONS IN SOUTHWEST TEXAS

**ATASCOSA COUNTY**

Alexander Boynton's No. 1 fee, in the John Sharp Sur., 3,645 varas E W line, 3,070 varas S N line of Sur., SW end of Somerset Field ..... T. D. 2,512 ft. in sand; will try to complete as gas well.

**BASTROP COUNTY**

B. L. Batts et al's No. 1 A. A. Alexander, W. M. Eastland Sur., 4,190 ft. to NW line, 1,320 ft. to SW line of Sur. ..... Shut down 1,325 ft.

Jim Harper's No. 1 Mitchell, 150 ft. from SE cor. Blk. 111, Bastrop Townsite ..... Derrick.

Johnson Bros.' No. 1 J. A. Cox, 980 ft. from NE line, 150 ft. from SE line of tract in Jas. Blalock Sur. ..... T. D. 2,000 ft.; shut down in chalk.

Abernathy et al's No. 1 A. Aldridge, in the Martha Barker Sur., 2,750 ft. SE and 450 ft. NE of 241-ac. tract or 2,000 ft. SW and 4,500 ft. NW of Sur. ..... T. D. 2,000 ft. shale; shut down.

Superior Oil Co.'s No. 1 A. Lasher, D. Dykes Sur., 600 ft. to S and W lines of Sur. ..... Location (corrected).

**BEE COUNTY**

Houston Oil Co.'s No. 1 McKinney, L. C. Randolph Sur. ..... T. D. 3,871 ft.; swabbed in for 700-bbl. well pipe line oil; initial prod. of 43 A.P.I. gravity oil.

Dr. Bozo & Cooper's No. 1 A. J. Kimball, C 189 acres in the Stephen Winship Sur. ..... Spudded in.

The Texas Company's No. 3 Tipps ..... T. D. 1,015 ft.; drlg.

Union Producing Co.'s No. 5 George Ray, NE offset to No. 1 J. J. McKinney ..... T. D. 560 ft.; set 560 ft. 10-in. sur. csg.; waiting on cement.

**BEXAR COUNTY**

Burton Oil Co.'s No. 1 P. H. Shook, in Monjares Sur., 3,150 ft. to E line, 150 ft. to N line of farm, 10 miles SE from San Antonio ..... Derrick.

H. H. Wallace et al's No. 2 Dulnig in the Justo Esqueda Sur., 5 miles SE from San Antonio ..... Taking core in lime rock.

Dingman Drlg. Co.'s No. 1 W. Kelso, 1,400 ft. from E line, 822 feet from S line of tract, near Alta Vista Field in the J. M. Urriegas Sur. ..... T. D. 1,068 ft.; drlg. in chalk, saturated.

F. H. Eckert's No. 1 Sandemer, Sur. 52 ..... Drlg. 615 ft.

Moore-Jauer's No. 1 Holly R. Ellison ..... T. D. 1,960 ft.; drlg. in gumbo.

**BLANCO COUNTY**

Ashe & Marshall's No. 1, 5 miles S Johnson City ..... Shut down 85 ft.

**BROOKS COUNTY**

Amos Dinn, trustee's No. 3 Garcia-Ramosi, Share B-1, Las Mestenas y Gonzales grant, 1,300 ft. S line, 2,325 ft. W line of Share B-1 ..... T. D. 1,655 ft.; standing.

Humble Oil & Ref. Co. and Shell Pet. Corp.'s No. 1 Singer, Alta Verde Subd., 2,500 ft. S of N line, 333 ft. W of E line of Sec. 312 ..... T. D. 1,524 ft.; drlg. in shale.

**CALDWELL COUNTY**

J. Harper et al's No. 1 Crenshaw, in the J. Burleson Sur., 600 ft. NE and 320 ft. NW of farm ..... T. D. 1,943 ft.; Serpentine; reaming.

W. E. Allaun and Caleo Pet. Co.'s No. 1 Martin ..... T. D. 2,920 ft.; preparing to shoot.

(Continued on Page 116)

## COMPLETIONS

### Darst Creek—Guadalupe County

Sun Oil Co.'s No. 2 Knoblock, 1,388 feet from southwest line, 150 feet from southeast line of Knoblock 75-acre lease, in the J. R. Robinson Survey; total depth 2,592 feet; top casing 2,190 feet; top Edwards 2,568 feet; flowed 1,100 bbls. per day.

Sun Oil Co.'s No. 1 Knoblock, in the Joel R. Robinson Survey, 150 feet each way out of the south corner of Chris Knoblock's 150 acres, in southwest part of survey; total depth 2,589 feet; elevation 516 feet; top casing 2,210 feet; top Edwards 2,563 feet; flowing 298 bbls. per day.

Empire Gas & Fuel Co.'s No. 3 Dowdy, 950 feet south-north line, 150 feet east-west line, A. E. Dowdy 40-acre tract, east offset to The Texas Company's No. 1 A. E. Dowdy; total depth 2,632 feet; top casing 2,215 feet; top Edwards 2,604 feet; initial production 400 bbls.

Humble Oil & Refining Co.'s No. 4-A Denman, 600 feet from 3-A Denman and in line with it; total depth 2,592 feet; top casing 2,163 feet; top Edwards 2,544 feet; flowing 1,750 bbls.

Humble Oil & Refining Co.'s No. 7-A Denman, 1,050 feet southeast of No. 4 Denman, in the A. S. Emmett Survey; total depth 2,582 feet; top casing 2,180 feet; top Edwards 2,551 feet; estimated 750 bbls.

Humble Oil & Refining Co.'s No. 1 Dowdy, 150 feet each way from southeast corner of 62-acre tract, in the Jacob Darst Survey; top casing 2,202 feet; top Edwards 2,571 feet; total depth 2,602 feet; swabbed 500 bbls.

The Texas Company's No. 2 Henry

(Continued on Page 125)

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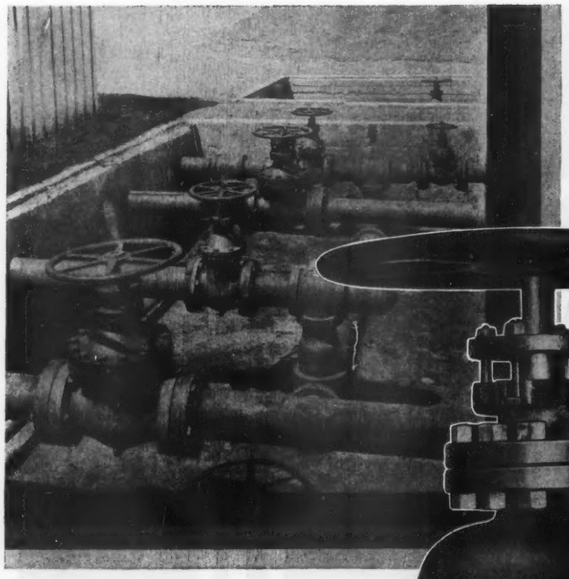

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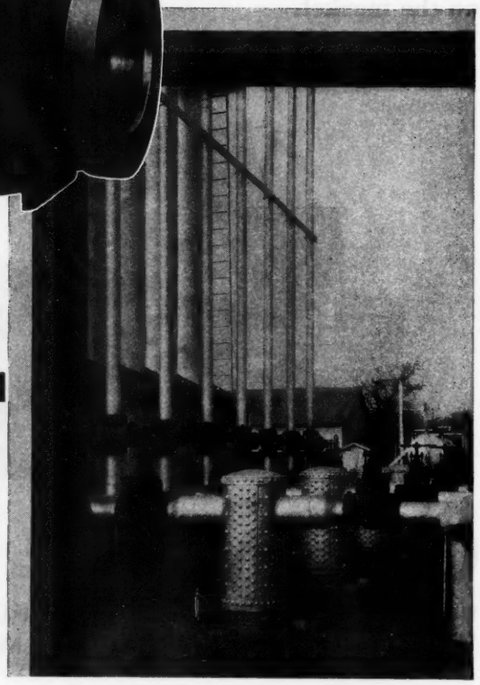

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# Wildcat Gas Well South of Homer

## Claiborne Parish Development Overshadows Sabine Parish During Week. Zwolle District Looking Better

By D. H. Bancroft
*Staff Correspondent, Louisiana-Arkansas*

SHREVEPORT, La., Feb. 10.—Triangle Drilling Co.'s No. 1 Kilpatrick, Section 7-19-5, 12 to 15 miles southwest of Homer production in the Homer Field, Claiborne Parish, put Sabine developments into the discard in the past week. Although only what is regarded here as a small gasser, the most liberal estimates giving it 1,500,000 feet of gas at 325 pounds rock pressure after being closed in for an hour, the gas analyzing according to one report 326 gallons to 1,000,000 feet, the wildcat has created the biggest stir hereabouts since R. L. Gay got his first commercial well in the Blue Lake district of Zwolle, Sabine Parish, over a year ago. It correlates closely with the smaller gas wells in the Gray sand, so-called, in Cotton Valley at around 4,200 feet, but no one so far has been brave enough to say it is the same sand, for the deeper horizons in Cotton Valley are nothing if not lenticulated.

At any rate, the Triangle company is going deeper with it, coring every foot, confident that if this well is not on top of structure it is only a little way off the top. Triangle's experience in Sugar Creek reads a great deal like R. L. Gay's (W. E. Cooke) experience in Zwolle. The company has been drilling there for a number of years. There hasn't been any doubt for years as to the existence of a structure, but whatever productive formations there may be are so deep that neither of the half dozen, or so, wells Triangle has drilled, and others before and contemporaneously with them, have gone so far enough to reach them. Triangle has 9-inch casing cemented at 4,266 feet and is equipped and is financially able to go on to the scheduled 7,000 feet.

The first Sugar Creek wells were drilled in 1919-20 by Fuller & Carnahan and the Homaokla Oil Co. One of them made a small gas show but neither was commercially successful and the discovery of the Homer Field soon shelved any further prospecting in the Sugar Creek territory. Later, when Homer began fading, there was more development as shown by the accompanying map. The first locations in Sugar Creek were made by H. D. Easton, his location for the Homaokla well being the first he made in this division. It wasn't a success. The well was not drilled deep enough. A 3,500-foot hole was a deep test in this division in those days. Homer had had a show in one well and derrick was up for a second when this work was done.

The present well, such as it is, a very positive encouragement for production deeper down made it's show a week ago at 4,371 feet after coring 19 feet of oolitic lime and was allowed to blow for a day. Taking no chances, the Triangle company elected to bring it in through tubing, or siphon, as the general practice has come to be in Richland where blowouts have been rather frequent of late.

### Zwolle Looks Better

The "black eye" the Zwolle district of Sabine Parish got by failure of the first tests after the discovery well to come in equally as good, is cleared up considerably by four wells all of which are waiting on standard rigs. They are expected to make good pumpers. Amerada Petroleum Corp.'s No. 1 Bowman-Hicks, in Section 33-8-12, half a mile northwest of the discovery, stood 300 feet in oil from 2,456 feet after filling up 600 feet and swabbing dry and standing over night. They cored the last 19 feet and missed all but the last 5 feet of core, all of it in chalk which made no show on bailing dry. R. L. Gay's No. 3 Sabine Lumber Co., Section 13-7-14, Blue Lake end of Zwolle, is standing 120 feet in oil, total depth 2,255 feet. Ohio Oil Co.'s No. 1 Bowman-Hicks, Section 35-8-12, a half mile east of the discovery gusher is full of oil waiting for standard rig, total depth 2,405 feet and No. 2 in Section 33-8-12, 1 mile southwest has 60 feet of oil in the hole from 2,462 feet and is awaiting orders. Olsan Brothers' No. 1 Keelan, Section 27-8-12, 1 mile north of the discovery, has filled up 150 feet with oil and is waiting for standard rig to pump from 2,625 feet. Two or three other wells have cemented the pay string and may be heard from during the coming week.

### Pleasant Hill

In the Pleasant Hill district of Sabine, Bridges-Clark Oil Co.'s No. 1 Gay, Section 33-10-12, which blew out two weeks ago with an estimated 25,000,000 feet of gas from 2,486 feet cemented 6⅝-inch at 2,367 feet, set liner and bailed down 500 feet off bottom, set over night and rose 1,000 feet in fluid, 50-50 salt and drill water with no more show of gas.

H. D. Easton, who did most of the early and a great deal of the later geological work on Zwolle has been retained by Benedum & Trees Oil Co. for further work in his line. John Pugh will do the drilling for Benedum & Trees with H. E. Sullivan as field superintendent and R. W. Lynn as Benedum & Trees' agent in this division. Gay is reported to have been assigned a one-half or a one-third interest in the 20,000-acre Blue Lake block by W. E. Cook but the report is without confirmation. Another version of it was that Cook was pulling out and had made a trade with Gay whereby the latter continues development of the property but on what terms the rumor was silent.

### Production Increase

Daily average runs from the field showed an increase for the week of 2,545 bbls., quite the most marked increase they have shown in several weeks. Louisiana runs of 37,590 bbls. were 1,095 bbls. more than last week and Arkansas' 58,700 bbls. were 1,450 bbls. more. Substantial increases in average shipments appear in the averages for Caddo light and heavy, Sarepta in Louisiana and Smackover heavy and Champagnolle in Arkansas.

Daily average shipments from the several pools were:

| | |
|---|---|
| **NORTH LOUISIANA** | |
| Caddo, light | 9,565 |
| Caddo, heavy | 2,965 |
| Homer | 3,585 |
| Haynesville | 4,575 |
| DeSoto-Red River | 2,350 |
| Elm Grove | 450 |
| Bellevue | 605 |
| Cotton Valley | 2,105 |
| Urania | 5,150 |
| Pleasant Hill | 915 |
| Sarepta | 1,340 |
| Zwolle | 3,985 |
| Total | 37,590 |
| **ARKANSAS** | |
| El Dorado | 4,075 |
| Smackover, light | 5,180 |
| Smackover, heavy | 41,080 |
| Stephens | 1,015 |
| Nevada County | 1,120 |
| Lisbon | 1,045 |
| Champagnolle | 4,950 |
| Bradley | 85 |
| Mount Holly | 150 |
| Total | 58,700 |
| Both states | 96,290 |
| Last week | 93,745 |
| Increase | 2,545 |

### East of Champagnolle

In the prospective pool east of Champagnolle in Union County, Arkansas, activity was confined to five new locations, prompted by Marine Oil Co.'s success with No. 3-A Thompson, Section 10-18-13, a 465-bbl. producer from 9 feet of sand, total depth 3,535 feet, about 500 feet lower in the red beds than Champagnolle oil. Johnson-Gunmer Co. went back to No. 1 Cargile, Section 4-18-13, which it had abandoned as a dry hole at 3,341 feet and will deepen to the Marine's

(Continued on Page 107)

## LOUISIANA-ARKANSAS PROVEN AREAS

**NORTH LOUISIANA**

**BOSSIER PARISH—BELLEVUE**

| Company, farm and location— | Remarks— |
|---|---|
| H. L. Morgan's No. 2 Wetherbee, 3,811 ft. E, 200 ft. S, NW cor., Sec. 28-19-11 | Coring lime 3,012 ft. |

**BOSSIER PARISH—CARTERVILLE**

| | |
|---|---|
| Bahan & Bahan's No. 1 G. W. May, 660 ft. S, 660 ft. W, NE cor., Sec. 26-23-12 | Rig up. |
| Bahan & Bahan's No. 1 Floyd Pleasant, 150 ft. N, 150 ft. W. C. Sec. 25-23-12 | Derrick. |
| Del.-La. Dev. Co.'s No. 2 Bollinger, 200 ft. N, 200 ft. W, SE cor. NE NE, Sec. 31-23-11 | Trying to set 3 3/16-in. inside 4½-in. liner; T.D. 3,135 ft. |
| Greenwood Prod. Co.'s No. 1 Bollinger, 1,980 ft. N, 1,150 ft. E, SW cor. SE, Sec. 36-23-12 | O.W.D.D. 3,071 ft. |
| Goodman-Johnson's No. 1 Martin, 330 ft. S, 330 ft. E, NW cor. SE, Sec. 26-23-12 | W.O.S.R.; T.D. 3,169 ft. |
| La. Pet. Corp.'s No. 2 J. W. Peyton, 1,170 ft. S, 150 ft. W, NE cor. SE, Sec. 25-23-12 | Drlg. 1,870 ft. |
| La. Pet. Corp.'s No. 3 Peyton, 660 ft. S, 150 ft. W, NE cor. SE, Sec. 25-23-12 | Coring 3,113 ft. |
| Lide et als' No. 1 Farrington, 330 ft. N, 330 ft. W, SE cor. NW NW, Sec. 23-23-12 | Derrick. |
| La. Oil Ref. Corp.'s No. 1 Matlock, 2,970 ft. S, 990 ft. E, NW cor., Sec. 26-23-12 | Rig up. |
| Love et als' No. 1 Allen, SE cor. NE NE, Sec. 30-23-11 | Derrick. |
| Magnolia Pet. Co.'s No. 1 M. A. Rogers, 660 ft. S, 660 ft. W, NE cor. NE SE, Sec. 21-23-12 | Bailing to test oil show; T.D. 3,304 ft. |
| Muslow Oil Co.'s No. 1 Barnett, 1,320 ft. W, 660 ft. N, SE cor., Sec. 25-23-12 | Cmtd. 6-in. 3,140 ft; 3-ft. sand 3,143 ft. |
| Muslow Oil Co.'s No. 1-B Kilgore, 3,050 ft. N, 1,930 ft. E, SW cor., Sec. 31-23-11 | Arranging to cmt. 4½-in; T.D. 3,134 ft. |
| Muslow Oil Co.'s No. 1-C Kilgore, 2,080 ft. N, 1,980 ft. E, SW cor., Sec. 31-23-11 | W.O.S.R; 2,500 ft. fluid; T.D. 3,167 ft. |
| Muslow Oil Co.'s No. 1 Mark Myer, 1,980 ft. N, 330 ft. W, SE cor., Sec. 36-23-12 | Arranging to deepen; T.D. 3,088 ft. |
| Northwest La. Gas Co.'s No. 5 Bollinger, 252 ft. E, 200 ft. S, NW cor. Lot 7, Sec. 31, in Sec. 38-23-11 | Began drlg. Feb. 4. |
| Nat. Gas Prod. Co.'s No. 1 U. S. Govt., 660 ft. N, 660 ft. W, C, Sec. 31-23-11 | W.O.S.R. 3,194 ft. |
| Nat. Gas Products Co.'s No. 2 U. S. Govt., NW cor. SE NW, Sec. 31-23-11 | Rigging up. |
| Nat. Gas Prod. Co.'s No. 2 U. S. Govt., NW cor. SE NW, Sec. 31-23-11 | Rig up. |

(Continued on Page 96)

## WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

**NORTH LOUISIANA**

**BOSSIER PARISH**

| Company, farm and location— | Remarks— |
|---|---|
| Simon Goldman's No. 1 McFarlin, SE cor. SW, Sec. 7-19-13 | Coring sand and shale 2,564 ft. |
| Neil & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14 | W.O.S.R; 980 ft. oil in hole; T.D. 998 ft; arranging to re-test at 998 ft. |
| S. P. Lanier's No. 1 Le Rosen, 300 ft. S, 1,600 ft. W, NE cor., Sec. 26-21-14 | Derrick. |
| Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13 | Set liner; washing; T.D. 3,184 ft. |
| C. L. West et als' No. 1 Sentell & Dickson, 2,310 ft. W, 895 ft. N, SE cor., Sec. 3-20-13 | S.D. 1,110 ft. |

**CADDO PARISH**

| | |
|---|---|
| R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 33-23-16 | D.S. test 8-ft. sand 4,479 ft; S.W; S.D. 4,496 ft. |
| I. N. Phariss, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14 | S.D. 2,322 ft; topped sand at 2,396 ft; set 6⅝-in; T.D. 2,409 ft. |
| C. W. Robinson's No. 1 Wilson, 990 ft. S, 330 ft. W, NE cor. SE, Sec. 2-15-16 | Rig up. |
| Old River Oil Co.'s No. 1 Sibley, 300 ft. E, 300 ft. S, NW cor. SE, Sec. 15-19-14 | W.O.S.R. 2,495 ft. |
| The Texas Co.'s No. 1 Henderson L. & T. Co., 990 ft. N, 450 ft. E, SW cor., Sec. 16-19-15 | Drlg. lime 2,723 ft. |

**CATAHOULA PARISH**

| | |
|---|---|
| Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E, 396 ft. S, C, Sec. 26-9-6 | S.D. 900 ft. |

**CLAIBORNE PARISH**

| | |
|---|---|
| El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 | S.D. 2,240 ft. |
| Leue Oil Co.'s No. 1 Taylor, Sec. 16-22-6 | Derrick. |
| Triangle Drlg. Co.'s No. 1 Kilpatrick, 660 ft. S., 660 ft. E, NW cor. SW NE, Sec. 7-19-5 | Cored 13 ft oolithic lime 4,359-71 ft; tried to blow out; estimated 5,000,000 ft. gas; set tubing; testing; T.D. 4,371 ft. |

**CONCORDIA PARISH**

| | |
|---|---|
| Joe Man et als' No. 1 Maxwell, C. Sec. 35-3n-8e | Began drlg. Jan. 15; 12¾-in. at 130 ft; W.O. |

**DE SOTO PARISH**

| | |
|---|---|
| Benedum & Trees Oil Co.'s No. 1 Johnson, 300 ft. S, 300 ft. W, NE cor., Sec. 7-11-13 | Drlg. 2,325 ft. |
| Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13 | Drlg. lime 3,500 ft |
| R. O. Roy's No. 1-B Farmer, 660 ft. S. 660 ft. E. NE SW, Sec. 18-13-13 | Derrick. |
| R. O. Roy's No. 1-E Farmer, 660 ft. S. 660 ft. W, NE cor. NW, Sec. 5-13-13 | Drlg. 1,985 ft. |

(Continued on Page 98)

# Gulf Coast Output Over 200,000 Bbls.

## Increase of 9,389 Bbls. Largely Due to Refugio Field, Which Is Making Approximately 36,000 Bbls. and May Reach 40,000

By Neil Williams
*Staff Correspondent, Gulf Coast Fields*

HOUSTON, Tex., Feb. 10.—Daily production of Gulf Coast fields the past week climbed above the 200,000-bbl. mark for the first time, thus setting a new peak in output. The estimated daily average for the week was 203,416 bbls., an increase over the preceding week of 9,389 bbls., or a gain of 8,176 bbls. over the previous peak of 195,240 bbls. attained during the week ending January 18.

Production of the Refugio Field, which has been responsible to a large extent for the consistent advance in Coastal figures, continued to mount rapidly during the week. The field now is making approximately 36,000 bbls. and it appears that the 40,000-bbl. production predicted as top for the field will be passed easily within the next few days and that future estimates will have to be made on a much larger scale.

Developments at Refugio the past week have given further indication that the field is one of the biggest propositions brought to light recently on the Gulf Coast. The town lot drilling play was given new impetus the past week with the completion of a string of good wells from the 3,700-foot level and extensive work is getting under way both in the 3,700-foot field and in the 5,400-foot pay on the east side of the old field.

Gulf Coast Pipe Line Co. so far has not completed its new 8-inch line from the field to Aransas Pass but expects to have it in operation sometime this week to relieve the congested production situation there. At present the one 6-inch line of the Gulf Coast Pipe Line Co. is being crowded to capacity, which under force is running approximately 15,000 bbls. daily to the company's terminal. Average daily tank car movements from the field during the week totaled about 90 cars, or about 17,000 bbls.

Of considerable interest the past week was the purchase by the Houston Oil Co. of the Rutherford-Traylor Oil Co.'s holdings, including a 7-acre lease with two producing wells. The deal involved approximately $300,000, of which $200,000 was in cash, the remainder to be paid in oil. The two wells, one of which was completed last week and the other two weeks ago, are flowing around 1,600 bbls. daily choked to a minimum.

### Refugio Completions

Completions in the Refugio Field the past week included:

| Company, well— | Bbls.* |
|---|---|
| Rutherford-Traylor Oil Co.'s No. 1, Blk. 77 | 850 |
| Independent O. & G. Co.'s No. 2 West | 700 |
| Herman F. Heep's No. 1 Rutherford | 1,800 |
| Houston Oil Co.'s No. 1 McKinney | 500 |
| Houston Oil Co.'s No. 2 Rea (W.C.) | 350 |
| Morgan Oil Corp.'s No. 1 Swift | 280 |
| Morgan Oil Corp.'s No. 4 City, Blk. 3 | 800 |
| Saxet Oil Co.'s No. 1 Cable | 1,100 |
| Houston Gulf Gas Co.'s No. 2 Morgan-Vance | gas |
| Total, 9 wells | 6,380 |

*Initial production.

All these wells were from the 3,700-foot sand. In the new deep sand area on the east, Union Producing Co.'s No. 1 Ben Shelton, late in the week, had drilled plug preparatory to setting screen and testing the oil sand found at 5,497-5,503 feet. This company's No. 2 O'Brien also is in sand at 5,554-68 feet with the bottom of the hole at 5,588 feet and is preparing to run 4½-inch casing. Houston Gulf Gas Co.'s No. 1 M. F. Lambert so far has missed the deep pay and at latest report was drilling sticky shale and hard lime below 5,825 feet.

### Barbers Hill Activity

At the close of the week 31 tests were drilling at Refugio and 16 others were rigged up and should be started within a few days. A dozen or more other locations have been made in active territory. This is the most activity on the Gulf Coast although there has been no abatement of work at Barbers Hill and Humble, where deep sand development is under way. At Barbers Hill 26 rigs are running with work spread out around the dome from the far south upward along the east and to the northwest where Humphreys Corp.'s No. 8-A Kirby, first deep producer on that side, still is making around 7,100 bbls. daily. This well, the best yet completed at Barbers Hill, has yielded approximately 300,000 bbls. since its completion early in January and with the exception of fluctuations due to the changes in sizes of chokes has maintained its initial flow steadily. The well continues to flow both through and around the drill stem. Except for the same company's No. 1-F Barber fee, a south offset, no other tests have been started in that vicinity with Humphreys holding virtually all the acreage in the immediate area.

Only one deep sand well was completed at Barbers Hill during the week, this being Mills Bennett Production Co.'s No. 2 Means on the east side which flowed the first day an estimated 1,800 bbls. from sand at a total depth of 5,137 feet. Six other tests, however, are in, or near the deep pay level, and the coming week should see new flush production at Barbers Hill, which at the close of the week was flowing more than 25,550 bbls.

### Completions at Humble

At Humble, The Texas Company finally has been able to make a successful completion of its No. 2 Dunman on the south side. This well set 336 feet of screen the past week and flowed initially at the rate of 500 bbls. daily. Total depth of the hole is 5,360 feet. The chief interest at Humble is centered on the west side where Sun Oil Co.'s wildcat producer, No. 3 Bender, is holding up its flow steadily and where a new drilling play is expected to take place in an effort to link this production with that on the south side. Sun Oil Co. is moving in materials for its No. 4 Bender, which is approximately 400 feet to the north of No. 3. Rio Bravo Oil Co. is rigging up on its No. 1 fee in the Bender south addition, and Harvey Smith has made location about a half mile to the south of Sun's well for his No. 1 O'Boyle.

### Curtailment by Humble

Three oil producers and one gas well were completed at Raccoon Bend, Austin County, by Humble Oil & Refining Co. and Valley Oil Corp., the joint operators. Within the past several weeks, these operators have greatly curtailed their work there and have been keeping fewer than 10 rigs running, as against a score formerly worked. Having built up a daily production there to meet its needs from that field, Humble is expecting to follow only a limited development program there. This policy also is to be followed by Humble in its other controlled fields.

Only two other completions were reported in the entire Gulf Coast area, these being Humble Oil & Refining Co.'s No. 25 Guedry at Hull flowing 250 bbls. daily at 3,754 feet, and Gulf Refining Co.'s No. 49 Star Vincent at Vinton pumping 126 bbls., 2 per cent sediment and water, at 2,418 feet.

Mills Bennett Production Co. was setting screen late Saturday in its No. 1 Allen at Allen Dome, Brazoria County. This test has a good looking oil sand at a total depth of 4,957 feet. Watts Brothers' No. 1 Hubert, at Mykawa, south of Houston, tested salt water in a sand at a total depth of 4,731 feet with 45 feet of screen. This test is a west offset to Humble Oil & Refining Co.'s No. 1 Sindous, which is drilling below 4,820 feet. The Watts test has encountered a number of fair looking oil sands. So far no commercial oil production has been obtained at Mykawa, which has been a very interesting torsion balance dome prospect.

### Daily Average Production

Daily average production of Coastal fields for the week ending February 8 was:

**GULF COAST PRODUCTION**
**SOUTHEAST TEXAS**

| | |
|---|---|
| Allen | 9 |
| Barbers Hill | 24,772 |
| Batson | 1,155 |
| Big Creek | 4,500 |
| Blue Ridge | 1,973 |
| Brenham | 100 |
| Boling | 961 |
| Clay Creek | 1,606 |
| Damon Mound | 450 |
| DeWalt | 12,080 |
| Fannette | 1,360 |
| Goose Creek | 5,008 |
| Hankamer | .... |
| High Island | 1,322 |
| Hull | 9,241 |
| Humble | 15,596 |
| Jasper County | 25 |
| Lost Lake | 710 |
| Markham | 330 |
| Nash | 500 |
| North Dayton | 1,260 |
| Orange | 2,572 |
| Orchard | 77 |
| Pierce Junction | 11,266 |
| Port Neches | 1,593 |
| Raccoon Bend | 12,059 |
| Refugio | 34,802 |
| Sheeks | 721 |
| Saratoga | 999 |
| Sour Lake | 2,357 |
| So. Liberty-So. Dayton | 6,403 |
| Spindletop | 19,685 |
| West Columbia | 6,281 |
| Total Southeast Texas | 181,773 |
| Week ending February 1 | 172,774 |
| Increase | 8,999 |

**SOUTH LOUISIANA**

| | |
|---|---|
| Anse La Butte | 55 |
| Bayou Blue | 29 |
| Bayou Bouillon | 41 |
| Black Bayou | 695 |
| Caillou Island | .... |
| Edgerly | 604 |
| Jennings | 1,266 |
| Hackberry | 3,419 |
| Lake Barre | 261 |
| Lake Pelto | 174 |
| Lockport | 3,401 |
| New Iberia | 5 |
| Port Barre | 1,521 |
| Sorrento | 74 |
| Starks | 556 |
| Sulphur | 5,100 |
| Sweet Lake | 20 |
| Vinton | 3,897 |
| Welsh | 160 |
| White Castle | 365 |
| Total South Louisiana | 21,643 |
| Week ending February 1 | 21,253 |
| Increase | 390 |
| Total Gulf Coast | 203,416 |
| Week ending February 1 | 194,027 |
| Increase | 9,389 |

## GULF COAST FIELDS AND WILDCATS

**Week Ended February 8**

**BARBERS HILL—CHAMBERS COUNTY**

**Mills Bennett Production Co.'s No. 2 Barber, north side**—Coring sand 5,915 ft.
**Mills Pennett Production Co.'s No. 2 Means (east)**—Comp. flowing 1,750 bbls. oil 5,137 ft.
Mills Bennett Production Co.'s No. 3 J. F. Wilburn, southeast—Set 12½-in. casing 1,144 ft.; total depth 1,150 ft.
Mills Bennett Production Co.'s No. 3 Smith (workover)—Set screen 5,360 ft.
Mills Bennett Production Co.'s No. 3 Collier—Rig.
Gulf Production Co.'s No. 2-A Wilburn, southeast—Rig.
Humphreys Corp.'s No. 1-F Barber, northwest—Rig.
**Humphreys Corp.'s No. 2-C Kirby**—Drill stem stuck 4,774 ft.
**Humphreys Corp.'s No. 1 McLean, east side**—Coring sand 5,562 ft., showing oil.
**Humphreys Corp.'s No. 2 Ilfrey, east side**—Drlg. shale 3,458 ft.
Humphreys Corp.'s No. 1 Morgan—Cap rock 2,130 ft.; cemented casing.
McAlbert Oil Co.'s No. 1 Higgins—Rig.
McAlbert Oil Co.'s No. 4 Woodward southeast—Pulling screen 5,113 ft.
**Republic Production Co.'s No. 3 Kirby (southeast)**—Rigging to pump 5,335 ft.
Sinclair Oil & Gas Co.'s No. 2 Wilburn, southeast—Drlg. shale 5,000 ft.
Sinclair Oil & Gas Co.'s No. 4 Wilburn, southeast—Drlg. gumbo 2,026 ft.
Sinclair Oil & Gas Co.'s No. 5 Wilburn, southeast—Drlg. sand 650 ft.
**Sun Oil Co.'s No. 3 Wilburn, southeast**—Comp. pumping 50 bbls. oil 5,331 ft.
**Sun Oil Co.'s No. 4 Wilburn (southeast)**—Drlg. shale and lime 4,194 ft.
**Sun Oil Co.'s No. 2 J. Wilburn (southeast)**—Drlg. shale 4,793 ft.
Sun Oil Co.'s No. 3 J. Wilburn, southeast—Drlg. gumbo 1,891 ft.
Sun Oil Co.'s No. 4 J. Wilburn, southeast—Rig.
**Sun Oil Co.'s No. 4 Chambers (south)**—Coring oil sand 4,767 ft.
**The Texas Company's No. 1 Lawrence**—Set 47 feet screen 5,367 ft.
**Unice Oil Co.'s No. 2 Feldman, east**—Drlg. sand and lime 4,229 ft.
**Yount Lee Oil Co.'s No. 11 Chambers, south**—Swabbed salt water 5,506 ft.; pulling screen.
Yount Lee Oil Co.'s No. 12 Chambers, south—Rig.
Yount Lee Oil Co.'s No. 13 Chambers, south—Rig.
Yount Lee Oil Co.'s No. 2 Phillips, southeast—Oil sand 5,156-74 ft.
Yount Lee Oil Co.'s No. 1 Zadie Fisher, southeast—Cored sand 3,355 ft.

**BOLING—FORT BEND AND WHARTON**

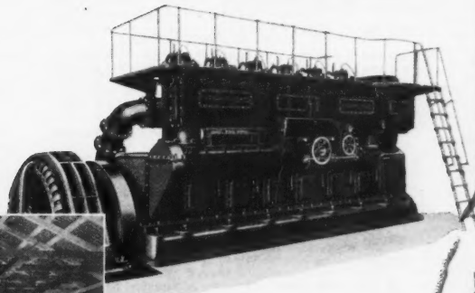
**Houston Gulf Gas Co.'s No. 1 Fields (northwest)**—Total depth 4,277 ft. in heaving shale; reaming.

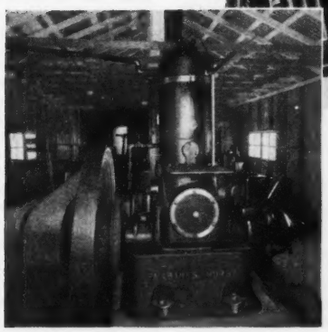
**RACCOON BEND—AUSTIN COUNTY**

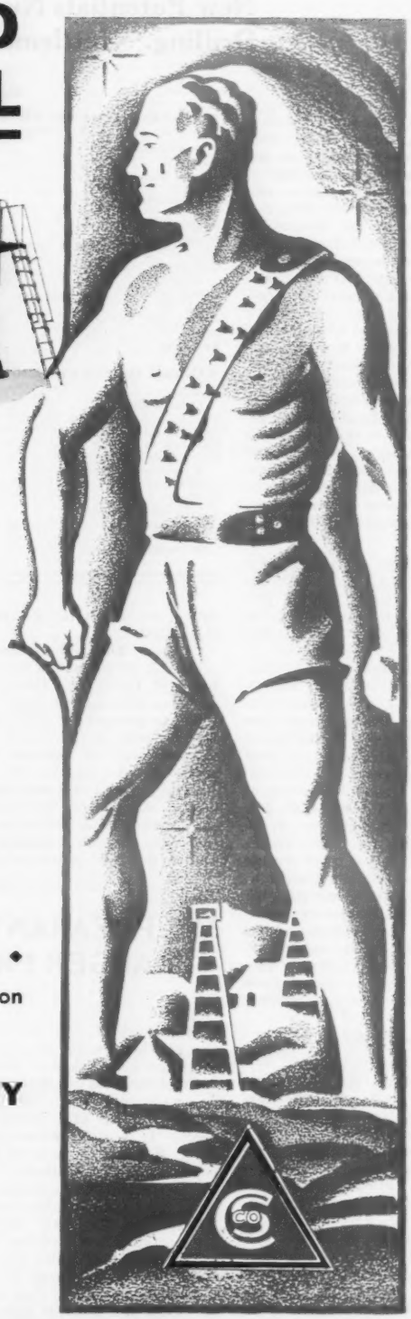
**Humble & Valley's No. 5 Austin College**—Shut down waiting orders 2,998 ft.
**Humble & Valley's No. 6-A Bracey**—Derrick.
**Humble & Valley's No. 7-A Bracey**—Location.
**Humble & Valley's No. 3 Buchanan**—Derrick.
Humble Oil & Refg. Co.'s No. 8-B Deutrich—Sidetracking 1,090 ft.
**Humble & Valley's No. 9-A Deutrich**—Shut down 3,200 ft.
**Humble & Valley's No. 11-B Deutrich**—Derrick
**Humble & Valley's No. 12-B Deutrich**—Derrick.
**Humble & Valley's No. 1 Duncan, State land**—Drlg. shale and lime 1,660 ft.
**Humble & Valley's No. 6 Gotosky**—Shut down 3,177 ft.
**Humble & Valley's No. 5-B Grawunder**—Rig.
**Humble & Valley's No. 10-B Grawunder**—Derrick.
**Humble & Valley's No. 3 Helmuth**—Derrick
**Humble & Valley's No. 3 Jackson**—Comp. flowing 392 bbls. oil 3,379 ft.
**Humble & Valleys No. 1-B Machamehl**—Drlg. shale 3,510 ft.
**Humble & Valley's No. 2 Mahnke**—Comp. as dry gas well 1,018 ft.
**Humble & Valley's No. 1-C Mitchell**—Location.
**Humble & Valley's No. 6 Mueller**—Rigging up to pump 3,270 ft
**Humble & Valley's No. 8 Mueller**—Comp. flowing 75 bbls. oil 3,540 ft.
**Humble & Valley's No. 6 Payne**—Derrick
**Humble & Valley's No. 7 Payne**—Location.
**Humble & Valley's No. 8 Payne**—Location.
**Humble & Valley's No. 5 Saunders**—Rig.

(Continued on Page 116)

# The POWER TREND is toward the DIESEL







Fairbanks-Morse vertical two cycle Diesels (for beam-well band wheel power and all oil field power applications) embody the same principles of economy — reliability and two cycle airless injection simplicity as the larger —

## FAIRBANKS-MORSE DIESELS . . . . . .

. . Used for Large Scale Power Generation and Marine Propulsion

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74 Trinity Place, New York
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# CONTINENTAL

# California Must be Cut to 609,000 Bbls.

## New Potentials Necessary. Effort to Stop New Tideland Drilling. Kettleman Hills Situation Nearing Settlement

By L. P. Stockman
*Staff Correspondent, California Fields*

LOS ANGELES, Calif., Feb. 8.—Crude oil curtailment and conservation work continued to monopolize the spotlight in California again this week and the local situation has become so acute that drastic steps must be undertaken immediately if the industry is to prevent a repetition of the chaotic conditions which existed in 1923. It is the general consensus of opinion that state production must be reduced to 609,000 bbls. per day immediately in order to stabilize prices on crude and refined oils as the general price structure is being seriously jeopardized because of overproduction and competitive marketing. The present situation is extremely critical and it remains to be seen whether some constructive steps can be initiated to prevent a complete collapse.

The biggest problem confronting operators is to find where an additional curtailment can be effected. State production has been hovering around 700,000 bbls. per day for the past three months and on this basis it will require an additional restriction of approximately 100,000 bbls. daily in order to reach the objective of 609,000 bbls. This seems like an impossibility and although some are dubious over the outcome a committee of operators is making a conerted attempt to reach the desired goal. If this can be accomplished the present crisis will be passed but, on the other hand, if success fails to attend the efforts of operators it will be just too bad. If the lid is kicked off we may expect drastic price cuts in both crude and refined oils, in which event it will be every man for himself. Producers and refiners appreciate this condition and because of its seriousness will make every possible effort to reduce the disparity between production and consumption. Under these conditions, the situation is not entirely hopeless.

### Chief Difficulty

As has been mentioned, the chief difficulty is to find some field susceptible of additional curtailment. Settled fields are practically out of the question as any further reduction in production would mean a complete shutdown and in many cases forfeiture of leases. This places the burden of any additional curtailment on flush or semiflush fields such as Santa Fe Springs, Elwood, Ventura Avenue, Long Beach and Seal Beach. All of this group have been curtailed since November 1 of last year but it is quite evident that an additional restriction must be effected if the objective is to be accomplished. In order to properly apply this projected reduction it will be necessary to establish new potentials in each of the fields mentioned. This will entail a temporary resumption of production for a definite period of time. It has been proposed to conduct a six-day flow test in each area involved on the assumption that the theoretical potentials are far too high. If this is found to be true Santa Fe Springs, for instance, could easily be cut from the present allowable production of 150,000 bbls. down to 125,000 bbls. daily. Some operators and a number of engineers believe, however, that the fields now under curtailment will exceed the established daily potentials. If the proposal to conduct actual flow tests meets with approval next week should see a big increase in state production. The Elwood Field of Santa Barbara County has already been opened up and preparations are being made to follow out a similar procedure in other flush fields.

**TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS**

| Commodity— | Total this week | Daily average | Total last week | Daily average | This year to date | Same time last year |
|---|---|---|---|---|---|---|
| Fuel oil | ..... | ..... | ..... | ..... | 71,950 | ..... |
| Diesel and gas oil | ..... | ..... | 73,070 | 10,439 | 359,861 | 247,750 |
| Gasoline | 290,356 | 41,479 | 355,958 | 50,851 | 2,155,718 | 2,261,177 |
| Coastwise— | | | | | | |
| Crude oil | 233,493 | 33,356 | 267,077 | 38,154 | 1,298,592 | 2,906,425 |
| Fuel oil | 386,891 | 55,270 | 297,498 | 42,500 | 1,678,447 | 1,746,507 |
| Diesel and gas oil | 32,694 | 4,671 | 42,104 | 6,015 | 153,026 | 88,022 |
| Gasoline | 121,183 | 17,312 | 122,136 | 17,448 | 1,001,299 | 1,168,581 |
| Kerosene | 3,961 | 566 | 494 | 71 | 7,124 | 1,139 |
| Exports— | | | | | | |
| Crude oil | 54,698 | 7,528 | 78,628 | 11,233 | 668,005 | 342,865 |
| Fuel oil | 359,337 | 51,334 | 385,966 | 55,138 | 1,617,645 | 1,927,587 |
| Diesel and gas oil | 187,495 | 26,785 | 78,718 | 11,245 | 430,167 | 202,615 |
| Gasoline | 208,026 | 29,718 | 638,756 | 91,251 | 1,639,010 | 1,230,018 |
| Kerosene | 131,891 | 18,842 | 89,227 | 12,747 | 221,118 | 397,600 |

**TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS**

| | | | | | | |
|---|---|---|---|---|---|---|
| Gasoline | 68,125 | 9,732 | ..... | ..... | 68,125 | 333,198 |
| Coastwise— | | | | | | |
| Fuel oil | 127,084 | 18,155 | 110,007 | 15,715 | 325,877 | 305,487 |
| Diesel and gas oil | ..... | ..... | 8,760 | 1,251 | 25,876 | 16,006 |
| Gasoline | 86,158 | 12,308 | 97,473 | 13,925 | 397,888 | 347,016 |
| Kerosene | 37,408 | 5,344 | 2,504 | 358 | 47,523 | 6,784 |
| Exports— | | | | | | |
| Crude oil | ..... | ..... | ..... | ..... | 3,075 | 71,453 |
| Fuel oil | ..... | ..... | ..... | ..... | 54,093 | 51,083 |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 6,050 | 62,815 |
| Gasoline | 14,500 | 2,071 | ..... | ..... | 278,926 | 546,954 |
| Kerosene | ..... | ..... | 96,077 | 13,725 | 133,749 | 68,030 |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 13,693 |

### Tideland Drilling

Recent developments indicate that the State of California, through its administrative offices, will make a determined effort to prevent the drilling of any tideland property in the future. F. G. Stevenot, director of natural resources, is sponsoring the creation of a state agency for the purpose of conducting a comprehensive survey of the California coast line with special attention directed to fisheries, minerals, commerce and scenic and recreational opportunities. He contends that any attempt to authorize future drilling on tideland and submerged land would result in the nullification of present natural protection to navigation and the impairment of the rights of the general public. It is interesting to note in this connection that Superior Judge S. E. Crow issued a temporary injunction restraining the Exeter Oil Co. and a number of other operators from drilling on tideland permits fronting on the beach along the county park at Carpenteria. This is the first step in a legal battle being staged by county supervisors to prevent any future drilling on tideland permits in Santa Barbara County. Work had already been started by the Exeter and if the injunction is made permanent at the hearing next week it will mean the elimination of prospecting work in this immediate area. Another development of interest to Santa Barbara operators was the decision by the Department of Interior that a strip of land fronting on the Bell Luton lease of the Barnsdall and Rio Grande at Elwood was not public property but was in reality a part of the Los Dos Pueblo ranch. This decision is of vital importance to the Barnsdall and Rio Grande as it forms a component part of the Bell Luton lease. The suit to dispossess the present successful holders of this lease dates back several months and, while it never had any merit it created a rather disagreeable condition. The Barnsdall and Rio Grande, joint owners and discoverers of the Elwood Field of Santa Barbara County, are entitled to more than an even break as they went into this area and pioneered work where practically every other operator refused to drill because of an age worn prejudice.

### Kettleman Hills

The Kettleman Hills situation resulting from completion of No. 1 Felix, a well located on acreage outside the area covered by the Kettleman Hills agreement, remained unsettled at the close of the week although a tentative proposal is under consideration. A meeting of all Kettleman Hills operators has been called for early next week for the purpose of selecting a new operating committee to replace the one elected under the curtailment agreement presided over early in 1929 by F. C. van Deinse, who was selected by operators at large as umpire. The present committee feels that it does not have sufficient authority to negotiate agreements between operators at Kettleman Hills and will consquently recommend more authority in matters pertaining to development for the new committee to be appointed. It is quite possible that many of the members now serving on the Kettleman Hills operating committee will be re-elected.

The serious overproduction situation confronting the California oil industry will be alleviated to some extent if Kettleman Hills operators can agree among themselves to restrict production in that area in conformity with the Kettleman Hills agreement negotiated last year by the Secretary of Interior. Reliable reports indicate that an early settlement of the controversy involving production in that area will be amicably settled in the very near future. It is quite probable that the California Department of Natural Resources will either dismiss or postpone the injunction proceedings already instituted if operators work out their problem to the satisfaction of all concerned.

The General Petroleum filed an answer during the past week to the complaint in the action brought by the State's Department of Natural Resources to restrain operators operating in the north dome from further waste of natural gas. In its answer the General Petroleum indicated, in conformity with its announced policy, that it intends to co-operate with state and Federal government in the conservation program affecting this field. It sets forth in the answer to the complaint that it has already completed No. 26 Ochsner and subsequently shut it in as evidence of its intention to comply with the Kettleman Hills agreement which retards production and development activities until July 1, 1931. At a recent meeting of Kettleman Hills operators, Secretary Wilbur formulated the

# MT. PLEASANT WELL STRIKES NEW HIGH; LARGER PRODUCTION IS ANTICIPATED

By Special Correspondent

MUSKEGON, Mich., Feb. 8.—Although there were no new completions of importance either in proven territory or wildcat areas in Michigan during the past week, one well in the Mount Pleasant Field seems to have struck a new high point. It was the Stork Oil Co.'s No. 5 Coon, NE NE, Section 12-14n-3w, Chippewa Township, Isabella County. The top of the Dundee formation was encountered high at 3,465 feet and oil pay at 3,495 feet. The well flowed 150 bbls. after being drilled to 3,520 feet, the point at which many wells top the Dundee limestone. No. 5 Stork is a little lower on surface elevation than a majority of the wells yet it is so high on structure that a much larger production is anticipated when it is drilled a little deeper.

The Pure Oil Co.'s No. 2-B State-Midland, NW NW, Section 18-14n-2w, Greendale Township, Midland County, had only 230 feet of oil in the hole after being drilled to 3,590 feet. Dundee was topped at 3,518 feet and pay at 3,557 feet but indications were it would not produce unless given a shot.

The Exploration company's No. 1 Thomas Wilson, NE NE, Section 7-32n-63, Long Rapids Township, Alpena County, was reported dry and ready to plug at about 1,100 feet. It is the third dry hole completed in Alpena County during the past year.

### New Permits

No permits for new wells in the Mt. Pleasant Field were issued, there being only three new permits, including one in the Muskegon Field, and two others, one in Manistee County and one in the Saginaw Field. The new Saginaw Prospecting Co. well is No. 76 on the George Brunner property, NE NE, Section 15-12n-4e, Saginaw Township, Saginaw County. The Swastika Oil & Gas Co.'s No. 1 W. H. Croaner, SE NW NW, Section 34-22n-16w, Manistee Township, Manistee County, is the new wildcat.

### Wildcats

The Muskegon Oil Corp. and the Grayling Development Co. have reached about 1,200 feet on their No. 2 State, NW NW, Section 16-26n-5w, Clearwater Township, Kalkaska County. It is expected it will be necessary to drill to about 2,200 feet for the upper Traverse, according to H. D. Crider, chief geologist for the Muskegon Oil Co. group.

New developments in the Muskegon oil field hinge principally about two possibilities. One is the discovery of dry gas in the lower Traverse to meet the present steady demand in Greater Muskegon and the other is the hope of additional oil production in a pay streak recently discovered immediately under the original Dundee.

As a result of the search for lower Traverse gas in a number of wells now being deepened or drilled from the surface in Sections 8 and 9 of Muskegon Township, average daily oil production has decreased several hundred barrels to about 5,600 bbls. including 5,200 bbls. of Dundee and 400 bbls. of Traverse.

Two small oil and gas producers were completed in the Dundee in Muskegon

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future policy of the Department of Interior with respect to Kettleman Hills. He stated that, "primarily the responsibility for the prevention of waste lies with the industry and the government of the states involved. The position of the Federal Government is not to interfere with the rights and duties of local state governments but lend such aid as it can and to participate in the solutions of the problems. Voluntary co-operation in the industry and wise exercise of police powers by the states must be the basis of conservation. Petroleum is our fastest dwindling irreplaceable asset and it is acknowledged that there is considerable preventable waste in the handling of our oil supplies. This is due to the waste of gas and oil, the use of gasoline containing crude oils in other than gasoline engines, the large amounts left in the ground because of badly managed attacks upon the pools and wastage from evaporation due to expensive storage above ground."

### Dry Hole in Middle Dome

George F. Getty is abandoning his No. 1 Irwin in the middle dome as a dry hole at 6,610 feet. This project, located in Section 20-23-19, does not necessarily condemn the middle dome as far as future production is concerned as it is really too far away from the axis of the structure to prove a conclusive test. Getty's decision to suspend drilling was due to the failure to encounter the brown shale, notwithstanding that the hole was carried down to a point approximately 1,000 feet below the depth at which the top of the brown shale was expected to be encountered. The brown shale has an approximate thickness of 2,000 feet in this area, indicating that No. 1 Irwin would have been obliged to go down to 10,000 feet for production. In the south dome the Ohio Oil Co. is making a conclusive test on No. 1 Smith before abandoning it as unproductive. This well, located in Section 35-24-19, was carried down to 8,054 feet and subsequently plugged back to 7,650 feet. The outcome of work on this well proved somewhat of a disappointment to interested parties, although the failure to secure commercial production does not condemn the south dome. This project showed evidence of resulting in substantial production higher up in the hole and another test might prove more satisfactory. Bottom water prevented a successful test of the showings mentioned.

A check of development work up to the present time reveals the fact that 18 wells have been completed in the north dome of the Kettleman Hills Field. None of these projects were given production tests but were suspended on top of the sand in conformity with the Kettleman Hills agreement. Additional projects are scheduled to be completed down to the top of the pay during the course of the next several months. The General Petroleum's No. 2 Ochsner, in Section 26-22-18, is one of the few wells which was drilled into production and subsequently shut in. This well revealed an initial of 3,200 bbls. of the usual high gravity crude and 60,000,000 feet of natural gas daily from 7,300 feet. The Associated Oil Co. has made exceptionally fast footage in No. 1 Whetley located on fee property adjoining the Felix lease of the Petroleum Securities. This well, which was spudded in October 23, 1929, has already reached a depth of 5,750 feet with a string of 13⅜-inch 61-pound casing landed and cemented at 6,578 feet. This is the longest string of 13⅜-inch casing that has thus far been run in California and the successful landing of this pipe is due primarily to the straight hole which has been drilled. The Department of Interior refused to validate the Bolsa Chica Oil Co.'s drilling permit on the Ferguson property in Section 24-22-17 on the showing made by the well at 7,480 feet. As a result of this decision the company will re-enter the hole and take several additional cores. The Department's refusal to validate the Bolsa Chica's permit is attributed to the fact that the heavy gas pressure has prevented a satisfactory recovery of core samples. In several instances the gas has blown the sample clean out of the barrel. The well has shown considerable gas during the course of work and the company has been obliged to fortify its heavy rotary fluid in order to prevent a blowout.

The eastern and western ends of the Long Beach Field continue to hold attention of operators and these sections of the field should respond to development work during the next several months. Another satisfactory completion was chalked up in the eastern end of Signal Hill during the past week when the Western Oil & Refining Co. recompleted No. 12 Harding flowing 1,160 bbls. initially from 6,790 feet. This well, a former upper zone producer located at Coronado & State Streets, is situated within 700 feet of No. 1 Sievers of the State company finished last year. The Cal-Mex Oil & Refining Co. successfully finished a new well at Twenty-ninth and California Streets when No. 25 Signal was brought in flowing 780 bbls. of 29.6 gravity oil daily. This project, bottomed at 8,005 feet, was finished with 5¾-inch oil string carrying 1,009 feet of perforated and cemented through perforations at 6,996 feet.

Several new wells are scheduled for completion at Long Beach within the next several days, included in which are No. 1 Graham, No. 3 Young and No. 1 Duncan of the Petroleum Securities, W. F. Meyers' No. 5 Signal, Hancock Oil Co.'s No. 22 Signal, No. 17 Haas of the Richfield Oil Co. and No. 19 Haas of The Texas Company. The Plymouth Oil Co.'s No. 9 at Twentieth & Ohio Streets should also be on production shortly as this well is drilling ahead in the oil sand at 5,650 feet at the present time. The Ohio Oil Co.'s discovery well at Playa Del Rey has been shut in due to conservation work coupled with the inability to negotiate a satisfactory sales contract. The Ohio has made good footage in its second well on this property, the bit at the end of the week being down approximately 3,400 feet. No additional development has got under way in the town lot area adjoining the Ohio's property at Playa Del Rey as the Los Angeles City Council has not yet definitely lifted existing drilling restrictions.

### Ventura Avenue

The Associated Oil Co. successfully finished a new well in the Ventura Avenue Field during the past week and incidentally increased its daily production 595 bbls. The Associated's latest completion was No. 34 Lloyd, which is producing 875,000 feet of natural gas from 7,178 feet in addition to the output of crude. The Shell, with 15 strings of tools in operation, is making preparations to spud in five new wells on the Taylor property. Construction work has already been started on several batteries of boilers for this projected work and rig material should be on the ground in the very near future. The Shell has four new wells nearing completion on the Taylor property at the present time and this entire quartet should be finished before the close of another month.

The General Petroleum picked up the top of the shallow zone in its No. 2 Ferguson, a tideland drilling project located out in the open ocean at Rincon, during the past week and if subsequent drilling reveals the existence of sufficient thickness of oil bearing formation to warrant the expectation of developing commercial production a string of pipe will no doubt be landed at an early date. The most interesting feature in connection with the coring of oil sand in this project is the fact that this horizon was encountered somewhat higher than it was picked up in wells drilled back of the shore line. The importance which attaches to this lies in the fact that it indicates that the apex of the structure is located out beyond the shore line. If this should ultimately be found correct it will result in the drilling of several additional tideland wells in the near future. Operators in the Elwood Field of Santa Barbara County resumed production during the latter part of the week in order to establish new potentials upon which to base future curtailment cuts. All wells in this field will be permitted to produce for a period of six days in conformity with the decision of operators to conduct a flow test to determine actual potentials in place of the theoretical maximums upon which previous cuts have been predicated.

### Midway-Sunset

Several new wells were completed in the Midway-Sunset Field of Kern County

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### IMPORTANT NORTHERN CALIFORNIA WILDCATS

| Company, well, location— | S-T-R | Depth | Status |
|---|---|---|---|
| Union, No. 1 Buel Canyon, Santa Barbara Co. | X- 7-31 | 3,350 | hd. sd. drilling |
| Tannehill, L. B., No. 1 Los Olivas, Santa Barbara Co. | 23- 7-31 | 3,175 | br. sh. drilling |
| Standard, No. 1 Point Conception, Santa Barbara Co. | X- 5-34 | 3,800 | br. sh. drilling |
| Ohio Oil Co., No. 1 Lompoc, Santa Barbara Co. | 2- 6-34 | 916 | hd. sd. drilling |
| Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co. | .... | .... | material |
| Calif. Oil Prop., No. 1 San Marcos, Santa Barbara Co. | 3- 4-28 | 4,040 | plug 3,850 ft. |
| Carey, A., No. 1 Goleta, Santa Barbara Co. | 1- 4-28 | 2,850 | sd. sh. drilling |
| General Pet., No. 1 Goleta, Santa Barbara Co. | 21- 4-28 | 4,533 | gas well—idle |
| General Pet., No. 3 Goleta, Santa Barbara Co. | 21- 4-28 | 3,975 | sd. sh. drilling |
| General Pet., No. 1 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 1,025 | suspended |
| General Pet., No. 2 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 1,248 | sd. sh. drilling |
| General Pet., No. 3 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 650 | sd. sh. drilling |
| General Pet., No. 4 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 1,035 | suspended |
| General Pet., No. 5 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 1,040 | suspended |
| U. S. Pet., No. 1 Goleta Tideland, Santa Barbara Co. | 20- 4-28 | 150 | cemented |
| U. S. Pet., No. 2 Goleta Tideland, Santa Barbara Co. | 20- 4-28 | 1,000 | sd. sh. drilling |
| U. S. Pet., No. 3 Goleta Tideland, Santa Barbara Co. | 20- 4-28 | 580 | br. sh. drilling |
| Macmillan Pet., No. 1 Goleta Tideland, Santa Barbara Co. | 21- 4-28 | 175 | suspended |
| Standard, No. 2 Goleta, Santa Barbara Co. | X- 4-29 | 2,688 | br. sh. drilling |
| General Pet., No. 3 Capitan, Santa Barbara Co. | 4- 4-30 | 1,601 | sd. sh. drilling |
| Oakburn Oil Co., No. 1 Capitan, Santa Barbara Co. | 4- 4-30 | 370 | suspended |
| Oakburn Oil Co., No. 2 Capitan, Santa Barbara Co. | 4- 4-30 | 200 | cemented |
| Oakburn Oil Co., No. 3 Capitan, Santa Barbara Co. | 5- 4-30 | 600 | sd. sh. drilling |
| Oakburn Oil Co., No. 4 Capitan, Santa Barbara Co. | 4- 4-30 | 118 | sd. drilling |
| Oakburn Oil Co., No. 5 Capitan, Santa Barbara Co. | 4- 4-30 | 325 | sd. drilling |
| Oakburn Oil Co., No. 6 Capitan, Santa Barbara Co. | 4- 4-30 | mtl. | bldg. pier |
| Fields Gasoline Co., No. 1 Orcutt, Santa Barbara Co. | 36-10-34 | 5,267 | testing |
| Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co. | 20-10-35 | 4,260 | will test |
| Pacific Western, No. 1 Gibraltar, Santa Barbara Co. | 14- 5-27 | 2,345 | suspended |
| Shell, No. 1 Summerland, Santa Barbara Co. | 18- 4-25 | 2,094 | reaming |
| Standard, No. 1 Casitas, Santa Barbara Co. | 26- 4-25 | 900 | sd. sh. drilling |
| Continental, No. 1 Carpenteria, Santa Barbara Co. | 33- 4-25 | 4,130 | gas well—idle |
| Continental, Tideland permit No. 121, Santa Barbara Co. | 33- 4-25 | 55 | suspended |
| Continental, Tideland permit No. 122, Santa Barbara Co. | 33- 4-25 | 158 | suspended |
| Continental, Tideland permit No. 123, Santa Barbara Co. | 33- 4-25 | 125 | suspended |
| Continental, Tideland permit No. 124, Santa Barbara Co. | 33- 4-25 | 415 | suspended |
| Continental, Tideland permit No. 124-A, Santa Barbara Co. | 33- 4-25 | 92 | cemented |
| Continental, Tideland permit No. 125, Santa Barbara Co. | 33- 4-25 | 120 | suspended |
| Continental, Tideland permit No. 126, Santa Barbara Co. | 33- 4-25 | 200 | suspended |
| Continental, Tideland permit No. 127, Santa Barbara Co. | 33- 4-25 | 145 | suspended |
| Continental, Tideland permit No. 128, Santa Barbara Co. | 33- 4-25 | 98 | suspended |
| Continental, Tideland permit No. 129, Santa Barbara Co. | 33- 4-25 | 97 | suspended |
| Getty, Geo. F., No. 1 Carpenteria, Santa Barbara Co. | 32- 4-25 | 68 | cemented |
| Getty, Geo. F., No. 2 Carpenteria, Santa Barbara Co. | 32- 4-25 | 55 | cemented |
| Shell, No. 1 Somis, Ventura County | 23- 2-20 | mtl. | building rig |
| Standard, No. 5-9 Saticoy, Ventura Co. | 10- 2-22 | 8,460 | redrilling |
| Bolsa Chica, No. 1-A Temescal, Ventura Co. | 4- 4-18 | 1,675 | br. sh. drilling |
| Fennell, E. A., No. 1 Piru, Ventura Co. | 13- 4-19 | 760 | sd. sh. drilling |
| Associated, No. 1 Rincon, Ventura Co. | 19- 4-24 | 500 | cemented |
| Continental, No. 3 Sulphur Mountain, Ventura Co. | 21- 4-22 | 6,226 | cemented |
| Lockwood Oil Co., Well No. 1, Ventura Co. | 28- 8-21 | 682 | suspended |
| Milham Explin., No. 9 Buttonwillow, Kern Co. | 8-28-23 | 4,990 | cleaning out |
| General Pet., No. 1 Buttonwillow, Kern Co. | 6-28-23 | .... | location |
| Lincoln Drlg. Co., No. 1 Buttonwillow, Kern Co. | 17-29-24 | 210 | sd. drilling |
| Shell, No. 1 Weed Patch, Kern Co. | 29-30-29 | mtl. | building rig |
| Elmer Oil Co., No. 1 Bena, Kern Co. | 15-30-30 | 3,800 | suspended |
| Elmer Oil Co., No. 1-A Rosedale, Kern Co. | 33-29-26 | 5,262 | suspended |
| The Texas Company, No. 1 Edison, Kern Co. | 23-29-29 | 5,460 | br. sh. drilling |
| Symark Oil Co., No. 1 Edison, Kern Co. | 24-29-29 | 2,130 | suspended |
| Sayre, F. M., No. 1 Edison, Kern Co. | 5-30-29 | 2,890 | sd. sh. drilling |
| McVey, Max, No. 1 Jasmine, Kern Co. | 23-25-27 | rig | suspended |
| Mallery Willard, No. 1 San Emidio, Kern Co. | 9-10-23 | 550 | suspended |
| Currency Pet. Co., No. 1 Jacalitos, Fresno Co. | 28-21-14 | 3,300 | hd. sd. drilling |
| Knudsen, John, No. 1 Jacalitos, Fresno Co. | 14-21-14 | 1,490 | suspended |
| Rio Grande Oil Co., No. 1 Kerman, Fresno Co. | 14-13-17 | 5,000 | suspended |
| Petroleum Securities, No. 2 Huron, Fresno Co. | 28-20-16 | 7,390 | suspended |
| Western Gulf, No. 1 Penoche Valley, Fresno Co. | 26-15-12 | 111 | sd. drilling |
| Union, No. 1 Huasna, San Luis Obispo Co. | 34-32-15 | 4,158 | suspended |
| Union, No. 1 North Huasna, San Luis Obispo Co. | 12-32-14 | 5,275 | br. sh. drilling |
| Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co. | 34-31-15 | 3,200 | gr. sd. drilling |
| Panorama Oil Co., Well No. 1, San Luis Obispo Co. | 7-31-21 | 4,019 | fishing |
| Paso Robles Synd., No. 1 Creston, San Luis Obispo Co. | 27-27-11 | 3,742 | suspended |
| Latin American, No. 1 Shandon, San Luis Obispo Co. | 31-27-15 | 4,160 | suspended |
| Chessher, H. B., No. 1 Dudley, Monterey Co. | 8-22- 8 | 245 | suspended |
| Union, No. 1 King City, Monterey Co. | 8-22- 8 | 2,715 | cleaning out |
| Standard, No. 1 King City, Monterey Co. | 23-22- 7 | 3,550 | hd. sd. drilling |
| Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co. | 19-23-15 | 781 | suspended |
| Penn Western, No. 1 Tulare Lake, Kings Co. | 24-21-18 | 1,338 | suspended |
| Well Port Oil Co., No. 1 Devils Den, Kings Co. | 9-24-17 | 2,550 | br. sh. drilling |
| Oceanside Oil Co., No. 1 Kreyenhagen, Kings Co. | 32-22-16 | 300 | suspended |
| Getty, Geo. F., No. 1 Dutton, Madera Co. | 18-13-16 | 4,615 | abandoned |
| Twin State Oil Co., No. 1 Soldani, Mendocino Co. | 14-12- 7 | 2,025 | sd. sh. drilling |
| Barnhart Trust, No. 1 Oakdale, San Joaquin Co. | 3- 2-10 | 2,550 | suspended |
| Inland Oil Co., No. 1 Visalia, Tulare Co. | 24-17-24 | 2,030 | suspended |
| White, Roy, No. 1 Pixley, Tulare Co. | 8-23-26 | 3,175 | hd. sd. drilling |
| Terminal Oil Co., No. 1 Tulare Co. | 29-20-25 | 4,198 | suspended |
| Terra Bella Oil Co., No. 1 Porterville, Tulare Co. | 35-22-27 | 900 | sd. sh. drilling |

### IMPORTANT SOUTHERN CALIFORNIA WILDCATS

| | | | |
|---|---|---|---|
| Simmel, L. G., No. 1 Inglewood, Los Angeles Co. | 21- 2-14 | 4,530 | sd. sh. drilling |
| Raleigh Oil Co., No. 1 Malibu, Los Angeles Co. | 1- 2-19 | 3,640 | sd. sh. drilling |
| Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co. | 21- 3-12 | 4,300 | gr. sd. drilling |
| Getty, Geo. F., No. 1 Riviera, Los Angeles Co. | 27- 2-12 | 2,825 | hd. sd. drilling |
| Burlingham Pet., No. 1 Compton, Los Angeles Co. | 17- 3-13 | 2,680 | suspended |
| Hanners, George, No. 1 Watts, Los Angeles Co. | 3- 3-13 | 3,655 | abandoned |
| Diller, W., No. 1 Watts, Los Angeles Co. | 8- 3-17 | 3,396 | sd. sh. drilling |
| Calif. Well Drlg. Co., No. 1 Compton, Los Angeles Co. | 11- 4-13 | 8,500 | suspended |
| Archer Oil Co., No. 1 Watson, Los Angeles Co. | 17- 4-13 | 5,557 | fishing |
| Harbor Oil Co., No. 1 Wilmington, Los Angeles Co. | 18- 4-13 | mtl. | building rig |
| Anchor Oil Co., No. 1 Puente, Los Angeles Co. | 19- 2-10 | 4,820 | suspended |
| Rucker, R. C., No. 1 Puente, Los Angeles Co. | 27- 2-10 | 3,275 | testing |
| The State Co., No. 1 Puente, Los Angeles Co. | 5- 2-10 | 4,101 | suspended |
| Sherman, J. W., No. 1 Puente, Los Angeles Co. | 33- 2- 8 | 730 | sd. sh. drilling |
| Keck & Hall, No. 1 Puente, Los Angeles Co. | 32- 2- 8 | 1,130 | redrilling |
| Urmi Oil Co., No. 1 Puente, Los Angeles Co. | 31- 2- 8 | 1,450 | hd. sd. drilling |
| Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co. | 16- 1-11 | 1,750 | hd. sd. drilling |
| Coastline, No. 1 Devils Canyon, Los Angeles Co. | 21- 5-17 | 2,542 | plug 2,100 ft. |
| Olympic Corp., No. 1 Calabasas, Los Angeles Co. | 18- 1-17 | 1,090 | hd. sd. drilling |
| Martin, J. W., No. 1 Newhall, Los Angeles Co. | 22- 1-17 | 1,100 | sd. sh. drilling |
| Consolidated Oil Co., No. 1 Newhall, Los Angeles Co. | 8- 3-16 | 1,140 | br. sh. drilling |
| National Sec., No. 1 Newhall, Los Angeles Co. | 1- 3-16 | 874 | will test |
| Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co. | 1- 3-16 | 900 | suspended |
| Union, No. 1 Coyote, Sansinena, Los Angeles Co. | 30- 2-10 | 2,105 | redrilling |
| Tureco Oil Co., No. 1 Whittier, Los Angeles Co. | 29- 2-11 | .... | location |
| Beard, G. F., No. 1 Brea Canyon, Los Angeles Co. | 30- 2- 9 | 1,099 | suspended |
| Western Gulf, No. 1 Brea Canyon, Los Angeles Co. | 28- 2- 9 | 2,700 | br. sh. drilling |
| Standard, No. 1 Coyote, Bastanchury, Orange Co. | 21- 3-10 | 4,210 | sd. sh. drilling |
| Shell, No. 1 Coyote, Orange Co. | 28- 3-10 | 6,050 | redrilling |
| Union Oil Co., No. 1 Richfield, Orange Co. | 13- 3- 9 | 2,660 | granite |
| Mesa Pet., No. 1 Newport, Orange Co. | 21- 6-10 | 3,350 | suspended |
| Oil Well Eng. Co., No. 1 Newport, Orange Co. | 21- 6-10 | 2,795 | suspended |
| Hall Pet. Co., No. 1-A Murrietta, Riverside Co. | 23- 7- 3 | 701 | cemented |
| Hemet Pet. Co., No. 1 Ward, Riverside Co. | 9- 5- 1 | 3,540 | bl. sh. drilling |
| Imperial Valley Oil Co., Well No. 1, Imperial Co. | 32-11-10 | 2,980 | suspended |
| San Marcos Oil Co., Well No. 1, San Diego Co. | 9-12- 3 | mtl. | bldg. rig |
| Turner, S. S., No. 1 Escondido, San Diego Co. | 25-12- 2 | 2,170 | sd. sh. drilling |
| McGregor Synd., No. 1 Del Mar, San Diego Co. | 17-14- 3 | 1,215 | sd. sh. drilling |
| Borderland Oil Co., No. 1 Encinitas, San Diego Co. | 12-13- 4 | 2,200 | sd. sh. drilling |
| Borderland Oil Co., No. 1 Point Loma, San Diego Co. | 30-16- 3 | 550 | sd. sh. drilling |
| Grey, H. H., No. 1 Redlands, San Bernardino Co. | 25- 1- 2 | 2,525 | cleaning out |
| Duncan, N. I., No. 1 Mojave, San Bernardino Co. | 8- 4- 6 | rig | rigging up |
| Girard & Grimes, No. 1 Corona, San Bernardino Co. | 8- 2- 8 | 380 | sd. sh. drilling |

# Hobbs Pool Defined to the Southeast

## Another Well Supposed to Be Close to Eastern Edge of Lea Pool, New Mexico. Salt Creek Deep Test Reaching Interesting Stage

By Tolbert R. Ingram
*Staff Correspondent, Rocky Mountain Area*

DENVER, Colo., Feb. 10.—The southeastern edge of the Hobbs Pool in Lea County, New Mexico, appears to have been found in the Midwest Refining Co.'s No. 6 Wright, which encountered sulphur water at 4,288 feet. This well is 5 miles southeast of the Humble Oil & Refining Co.'s No. 1 Bowers, which averaged 358 bbls. an hour on a 6-hour test. The Shell Petroleum Corp.'s No. 1 Thorpe, in this pool, made 1,131 bbls. of oil and 5,000,000 feet of gas in a 24-hour test. The Texas Production Co.'s No. 1-B State, in the Lea area, appears to be close to the eastern edge of the Lea Pool and is being plugged back to shut off water.

In Colorado, the Continental Oil Co.'s No. 1 Pipe Springs, in Bent County, has reached a depth of 5,504 feet, the deepest so far drilled in the southeastern part of the State. One well was spudded and one abandoned in Las Animas County and Fremont County has a new operation under way. A well in Delta County is to be made into a Pennsylvania test.

Idaho and Utah had only routine operations to report, and South Dakota is to have two more wells drilled near the Black Hills Petroleum Co.'s discovery, the first commercial well in the State.

In Wyoming, the Salt Creek deep test is reaching an interesting stage and several wildcats are drilling close to the objectives, but no completions were reported.

### UTAH

The Utah Southern Oil Co.'s No. 1 State, NE SW SE, Section 26-21-23, Cisco structure, in Grand County, Utah, which is to be drilled to the Pennsylvania series as a test of the theory that structures around the edge of the salt basin to the southeast may be productive, is rigged up and ready to commence spudding. The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, is still shut down at 5,612 feet waiting for parts. The Midwest Refining Co.'s No. 31 Pary, SW SE, Section 14-34-1w, Kane County, is bottomed at 1,836 feet, steel line measurement, and is cementing the 12½-inch at that depth.

### NEW MEXICO

There was a noticeable decrease in activity in Lea County, New Mexico, this week due principally to the completion of the drilling campaigns in the Hobbs and Lea areas which were inaugurated upon the bringing in of key wells several months ago. The offsets are about completed and no new drilling, with the exception of one well, has been started.

The most important development was in the Hobbs Pool where the Midwest Refining Co.'s No. 6 Wright, NW cor. SW, Section 14-19-38, ran into sulphur water. The hole is bottomed at 4,295 feet and has from 700 to 1,000 feet of sulphur water coming from horizons at 4,228-33 and 4,275 feet. There were some rainbows of oil on the water. The Wright well is three-fourths of a mile east and one-fourth of a mile south of the company's No. 24 Leach, NE SE NW, Section 15-19-38, which averaged 430 bbls. daily from the pay at 4,103 feet, and apparently marks the edge of the pool on the southeast. The southern limit was found in December in the Shell Petroleum Corp.'s No. 1 Terry, SE SW NE, Section 22-19-38, which was abandoned at a depth of 4,238 feet. The Shell well was half a mile west and 1 mile south of the Midwest's Wright well, and 1¼ miles south and one-fourth of a mile east of the Midwest's No. 24 Leach. While a number of locations have been made in the Hobbs area, mostly several months ago, there are no wells drilling. The Humble Oil & Refining Co.'s No. 1 Bowers, 3 miles northwest of the nearest producer and 5 miles northwest of the Midwest's No. 6 Wright, is running the 3-inch tubing, and after this is finished the well will be shut in indefinitely. The 6-hour test recently conducted, in which it averaged 358 bbls. per hour, showed 10 per cent basic sediment and water in the first hour, but this gradually decreased until it was only nominal in the last hour. The figures are as follows:

| Hour | Gross prod. | B.S. and water | Pipe L. oil |
|---|---|---|---|
| 1 | 358 | 10.0% | 319 |
| 2 | 390 | 4.0% | 374 |
| 3 | 381 | 2.0% | 373 |
| 4 | 353 | 1.0% | 349 |
| 5 | 365 | 0.8% | 363 |
| 6 | 372 | 0.4% | 371 |
| Total | 2,219 | | 2,149 |

The Shell Petroleum Corp.'s No. 1 Thorpe, SW NW SE, Section 10-19-38, an offset on the north to the Walker Oil Corp.'s No. 1 Terry, reported a completion last week, has been shut in for storage and pipe line. It made 1,131 bbls. natural in the first 24 hours from the pay at 4,140-70 feet. The total depth was 4,170 feet. The elevation is 3,590 feet. The top of the salt was at 1,720 feet, the base at 2,655 feet, and the top of the brown lime at 3,890 feet. The well also made 5,000,000 feet of gas, a much better showing than in the other wells in the immediate vicinity.

#### Lea Area

The developments in the Lea Pool were very similar to those in the Hobbs area. The Texas Production Co.'s No. 1-B State, SW cor., Lot 5, Section 1-21-33, which had 2,700 feet of fluid in the hole at 3,790 feet, is being plugged back to 3,781 feet to test and pump after shutting off bottom water. It is one location east of its No. 1-B State, SE cor., Lot 8, Section 2-21-33, and one location north of the Continental Oil Co.'s No. 1 State, both of which came in as good producers. It apparently is very close to the edge on the east, though it is half a mile west of the Amerada's No. 1 State, abandoned as being off structure. The drilling campaign started when the Cranfill & Reynolds' No. 1-B State came in last year is nearing a close. The Continental Oil Co.'s No. 2 State, SW cor., Lot 12, Section 1-21-33, one location south of its No. 1 State, a producer, is drilling at 3,360 feet in blue shale, and Snowden & McSweeny's No. 1 State, NW cor. SW, Section 1-21-33, is bottomed at 3,800 feet with 200 feet of oil in the hole and is shut down for orders. It is the most southerly of the group of wells started last fall. Interest will now center in Cranfill & Reynolds' No. 1-D State, SE cor., Lot 6, Section 3-21-33, located 1½ miles west of the producers, which commenced spudding last month and which will throw some interesting light on the trend of the production. The Texas Production Co.'s No. 2-A State, SW cor., Lot 8, Section 2-21-33, is on production and on January 24 made 1,208 bbls. in 24 hours and on the following day put 1,156 bbls. into the tank.

#### Empire Area

The Empire Gas & Fuel Co.'s No. 3-B State, SW NE SE, Section 5-21-35, is bottomed at 4,666 feet in lime with a hole full of sulphur water, but it is not certain whether it is bottom water or coming from behind the 6⅝-inch at 4,661 feet. It had water above this depth at 3,935 feet.

#### Cooper Area

The Texas Pacific Coal & Oil Co.'s No. 3 State, NW SW NW, Section 21-23-36, is bottomed at 3,249 feet in lime and waiting for cement to set. The 9½-inch was set at 3,247 feet. It bottomed the salt at 3,188 feet and topped the brown lime at 3,243 feet. The elevation is 3,429 feet. It is running approximately 12 feet higher than its No. 2 State, NW cor. SW, Section 21-23-36, one-fourth of a mile south, which at last reports was producing 580 bbls. of oil and 100 to 120 bbls. of water daily.

#### Eunice District

The Continental Oil Co.'s No. 1 William Meyer, SW cor. NW, Section 28-22-36, is bottomed at 3,750 feet and drilling up bailer.

#### Lovington Area

The Barnsdall Oil Corp.'s No. 1 Bronson, SE cor., Section 28-16-38, is shut down at 4,517 feet in anhydrite, the contract depth having been reached.

#### Eddy County

One new location was announced in Flynn, Welch & Yates' No. 2 Stephens, 1,860 feet east of the west line and 2,200 feet north of the south line in Section 13-17-30, in the Maljamar area. Etz Brothers' No. 1 Etz, C SE SE, Section 13-16-30, is bottomed at 3,850 feet with 100 feet of salt water in the hole from 3,847-50 feet, and is preparing to plug back. It had a show for 25 to 30 bbls. a day at 3,585-3,620 feet.

### COLORADO

The Continental Oil Co.'s No. 1 Pipe Springs, NE cor. SE, Section 27-27-49, in Bent County, Colorado, the deepest test so far drilled in the southeastern part of the State, has reached 5,504 feet, where it is bottomed in sand and underreaming the 5-inch at 5,255 feet. This well is 18 miles northeast of the Marland's No. 1 Mesa, in Baca County, abandoned two years ago at 2,085 feet in dolomite. The last named well found the granite ridge which runs through that area, but which is hidden at the surface and, apparently, the Pipe Springs well has encountered a very different condition. The Pipe Springs test cut the red beds at 1,165-3,700 feet and topped the Pennsylvania at 3,700 feet.

#### Washington County

The Middlemist Oil Co.'s No. 1 Middlemist, SE SW SE, Section 14-4s-56, also known as M. T. Smith & Sons' No. 1 Middlemist, is shut down at 1,030 feet with the 15½-inch on bottom. This test is to be carried to at least 4,500 feet with an 8¼-inch hole at that depth.

#### Yuma County

Phillips Petroleum Co.'s No. 1 Andrews, NW NW, Section 3-2s-42, Rosenkrantz structure, just west of the Kansas line, is drilling at 4,891 feet and carrying the 6⅝-inch casing.

#### Las Animas County

The Helium Co.'s No. 1 Hall, NW SE SW, Section 19-27-59, Delhi structure, which encountered water at 923 feet, is being abandoned at a total depth of 935 feet, and its No. 3 Morris-Cowdrey, SW cor. NW, Section 35-29-60, Model Dome, is moving in materials.

#### Archuleta County

The Standard Oil Co. of Colorado's No. 1 Fitzhugh, NE NW SW, Section 34-33n-1e, Chromo Dome, has been delayed in spudding by the heavy snows, there being 3 feet of snow on the ground.

#### Larimer County

The Continental Oil Co.'s No. 5 Scott, NE NW, Section 6-9n-68, Wellington Dome, is drilling at 1,220 feet, and the

(Continued on Page 107)

# SOUTH TURNER VALLEY WELL INTO DEEP LIME PRODUCTION

By Victor Lauriston
*Staff Correspondent, Canadian Fields*

CHATHAM, Ontario, Feb. 8.—In the South Turner Valley, Home Oil Co.'s No. 4, LSD 14, Section 20-19-2w5, has come into production in the main deep lime horizon at 5,584 feet. Official figures indicate a wet gas flow of 20,000,000 feet, approximately the same as the initial flow in Home's No. 1.

Royalite Oil Co.'s No. 23, NW, Section 31-19-2w5, has been finished 511 feet in the lime at 5,331 feet depth, and is officially reported as a small producer. This test is along the boundary line between the south and central sections of Turner Valley.

In the central field, Royalite Oil Co.'s No. 4, LSD 12, Section 7-20-2w5, is reported to have come back into partial production. This well, which in October, 1924, developed the first deep lime production, maintained a steady average around 500 bbls. a day until August, when it rapidly declined to a negligible figure. It is now reported making around 200 bbls. Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, is also reported to have returned to production after temporary freezing. The production has varied from 2,900 bbls. in August to 111 bbls. in December, the well having frozen intermittently ever since it was deepened to the lime.

#### Imperial Operations

Two new Imperial tests are being started in Turner Valley. Royalite Oil Co.'s No. 24, Section 29-19-2w5, which spudded in recently, is drilling below 140 feet, northwest of Home's No. 4, which recently came into production. Southern Lowery's No. 2 has started rigging up for a test with standard tools in LSD 13, Section 9-19-2w5, 200 yards east of Foothills' No. 3. This test is somewhat significant in view of the fact that Foothills' No. 3, in LSD 16, Section 8-19-2w5, is down to 6,054 feet and 576 feet in the lime without commercial production.

#### South Turner Valley

In the South Turner Valley, Mercury Oils' No. 3, LSD 2, Section 4-19-2w5, got the lime at 5,083 feet and is reported drilling at 5,108 feet. This is the first test in the Mercury-Mill City group in Section 4-19-2w5 to get the lime, and shows the lime to be somewhat higher in this area than in Section 8, to the immediate northwest. Mercury's No. 3 is 300 yards north of Sterling Pacific's No. 1, the most southerly test in the valley to reach the lime. Mercury's No. 3 was originally Sunlight Oils' No. 1, and is being completed by Union Drilling Co. for Mercury Oils, Ltd., following the merger of the Mercury and Sunlight interests some months ago.

In the same area, Mercury's No. 2, LSD 12, is rigging up to resume testing in the Dalhousie sands at 4,460 feet. In Section 20-19-2w5, Wellington Oils' No. 1, LSD 1, is working on new derrick to resume in the lime at 4,660 feet.

East Crest Oil Co.'s No. 1, LSD 5-6, Section 16-19-2w5, is unloading diamond

(Continued on Page 123)

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# REDUCTION GEAR

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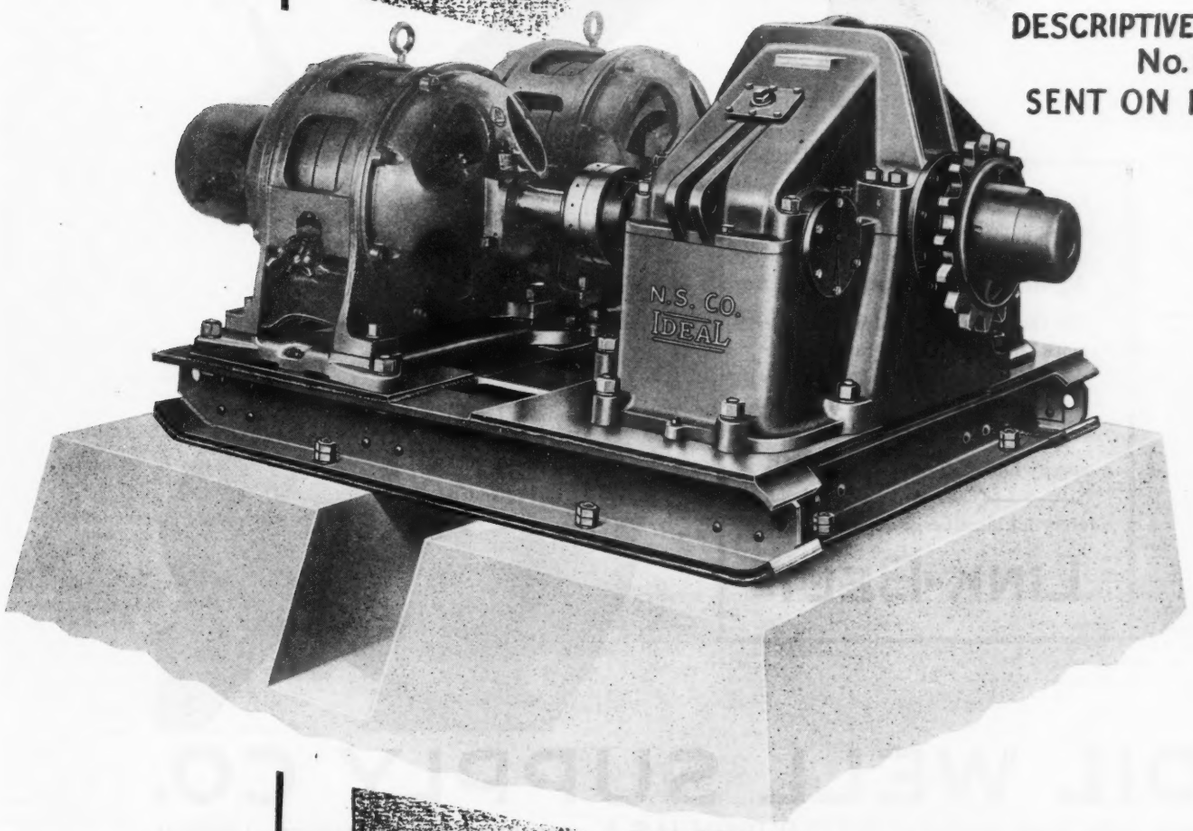


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# Good Well Extends Ector County Pool

## Penn Pool Appears Likely to Be One of Major Producing Areas in Permian Basin. State Curtailment Plan Discussed

By L. E. Bredberg
*Fort Worth Bureau, The Oil and Gas Journal*

FORT WORTH, Tex., Feb. 10.—While the Van Pool in Van Zandt County, East Central Texas, was completing three good wells during the week, and being extending in two directions, enlarging prospects for one of the best pools in Texas, the Penn Pool in Ector County was also receiving another good well and was being extended, and appearing as sure to be one of the major producing areas of the Permian Basin.

The Cosden Oil Co.'s No. 1-A University, in the SE cor. S half NE, Section 1, Block 35, extended the Penn Pool three-quarters of a mile north when it blew in at the total depth of 3,654 feet, losing the tools and 1,000 feet of wire line in the hole. It topped the pay at 3,596 feet, and encountered a big increase at 3,640 feet, and another at 3,654 feet after making a couple of heads from 3,616-20 feet. Tools were lost when the last increase in oil was struck. The test was running approximately 63 feet higher on top of the Big lime than the company's No. 1-B University to the south, and was the highest well in the field to date. Gas was found from 3,335-3,400 feet. The well flowed 872 bbls. in nine hours ending 7 a.m. February 10.

Last week Cosden completed its No. 1-B University in SE cor. NE, Section 2, for an initial production of 975 bbls. in 22½ hours at a total depth of 3,635 feet, the well being pinched 12 hours of the 22½, but later decided to deepen, and on February 3 it was bottomed at 3,678 feet, increasing in flow to 100 bbls. per hour, making the best well in the field before No. 1-A came in for the abovementioned amount with tools and 1,000 feet of line in the hole. No. 1-A will doubtless out perform No. 1-B when the tools and line are recovered.

Landreth Production Co.'s No. 1-T, in the NE, Section 3, Block 35, was completed this week as a gasser at a total depth of 3,175 feet, the gas coming from 3,135-38 feet, and at first making an estimated 18,000,000 feet, but later decreasing to 5,021,000 feet with 250 pounds rock pressure.

### Hendricks Semiwildcat

M. J. Bashara's No. 2 fee, in Section 17, approximately 4 miles east of the Hendricks Pool, Winkler County, was completed this week for a 35-bbl. well at a total depth of 3,087 feet. Top of the pay was found at 3,045 feet. This is a semiwildcat on the eastern flank of the Hendricks Pool, and although it does not give much promise of discovery of any large producers in the vicinity other small wells may be completed on nearby acreage. A western offset owned by Mr. Bashara is a 20,000,000-foot gasser supplying gas for drilling and pumping purposes in the Hendricks Pool.

### Grand Falls Pool

In the small producing area near Grand Falls, Ward County, Fugler and others completed their No. 1 Townsite for a 40-bbl. well during the week at a total depth of 2,186 feet. Top of the pay is 2,151 feet. This makes the second well in this individual pool, 3 miles south of the Shipley Pool. Another well in the pool is averaging 30 bbls. per day on the swab at a total depth of 2,210 feet. This is the Alpine Oil Co.'s No. 1 Dakan. It topped the pay at 2,148 feet, and was shot with 90 quarts from 2,125-85 feet. It will probably be put on the pump. Anderson's No. 1 Johnson, in Section 7, an east offset to the discovery of this pool, is cleaning out at 2,183 feet after a 70-quart shot from 2,153-83 feet, averaging 20 bbls. per day swabbing. Top of the pay of this test is 1,255 feet, and total depth is 2,183 feet.

The World Oil Co. now has its second well in Glasscock County on the pump. This well is the company's No. 2-C, located northwest of the discovery in Section 21, Block 34, Township 2s, T.&P. Survey. It topped the pay at 2,435 feet, and was bottomed at 2,441 feet, pumping 83 bbls. in 19 hours, pumping off the head. Standing over night it pumped 13 bbls. in four hours pumping off, providing a small producer compared with its predecessor in this first individual pool of the county.

### Gaines County Test

Near the southwestern corner of Gaines County, Cranfill & Reynolds and the Louisiana Oil & Refining Co. have a test on the Ralph ranch in the C SW, Section 7, Block A-28, which is attracting considerable attention, although it is running low structurally. On February 9 it had a showing of half a bailer of oil per hour at 4,351 feet, and the hole has been reduced for deeper drilling. Elevation of the test is 3,475 feet. Nearest production to this test is in the Hobbs area in Lea County, New Mexico, a few miles to the northwest, while several miles to the southeast is the Deep Rock Oil Co.'s No. 1 Ogden in Andrews County.

In Pecos County Buell and Hagan completed their No. 1 Byrne in Section 54, Block 10, H.&G.N. Survey, as an estimated 3,000,000 or 4,000,000-foot gasser at a total depth of 1,329 feet, top of the gas being struck at 1,320 feet.

Group No. 1 Oil Corp.'s (Texon Oil & Land Co.) No. 1-B University, the first deep producer in the Big Lake Pool, Reagan County, set another gas peak during the week when it gauged 27,262,000 feet on February 5. The preceding peak was set on January 1 with 27,253,000 feet.

The Yates Pool, Pecos County, may shortly undergo a 30,000-bbl. per day reduction to 100,000 bbls. per day. This was proposed at a meeting held by the Advisory Committee with recommendation to the Railroad Commission for such a reduction. Another meeting will be held February 21 to discuss such further curtailment before it is put into effect. One Oklahoma operator seems to be against the reduction.

Potential of the pool on February 1, taken on 12-hour gauges, was 2,687,400 bbls. The previous potential was 2,670,377 bbls., the new potential showing a gain of 17,033 bbls.

### Curtailment Committee

After the meeting of the central committee of the Texas division of the Mid-Continent Oil and Gas Association at Fort Worth on February 6, where further curtailment of the various pools in the State was discussed, nothing definite could be announced as to plans which might have been considered, for the oil companies and producers operating in the State do not desire to run afoul of the Texas laws governing drilling and production of petroleum in the State, and it was believed imperative to meet with the governor and other state officials at Austin to discuss possible means of gaining state assistance and the sanctioning of possible plans which might be used in bringing about a reduction in production in the various pools scattered over Texas.

Former plans of this committee practically adopted a 100,000-bbl. cut in production of the State's daily amount; but so far only 30,000 bbls. have been lopped off, and that in the Yates Pool. This leaves around 70,000 bbls. more to be cut off, 7,000 bbls. of it possibly coming from the flush pools of Gray County in the Panhandle district. The Railroad Commission has been granting curtailment more by inference than permit, and for this reason the operators desire to make sure as to a definite foundation and backing before acting further in curtailing other areas. As the curtailment will benefit the fee owner as well as the operator, it is believed that the state officials will readily grant any legislation or permission desired to bring about the effect which all are seeking.

### WEST TEXAS PRODUCTION
**Week Ending February 8**

| County— | No. wells | Production |
|---|---|---|
| Crane County | 327 | 36,670 |
| Crockett County | 46 | 1,695 |
| Fisher County | 7 | 1,385 |
| Ector County | 6 | 930 |
| Garza County | 5 | 50 |
| Glasscock and Howard | 475 | 39,350 |
| Jones County | 73 | 2,215 |
| Loving County | 18 | 1,240 |
| Mitchell County | 143 | 2,300 |
| Pecos County | 403 | 141,440 |
| Reagan County | 253 | 16,480 |
| Runnels County | 3 | 20 |
| Scurry County | 5 | 20 |
| Upton County | 249 | 8,790 |
| Ward County | 22 | 1,705 |
| Winkler County | 609 | 88,250 |
| Total production this week | 2,644 | 342,540 |
| Total production last week | 2,631 | 340,554 |
| Difference | 13 | 1,986 |

### WEST TEXAS COMPLETIONS

#### Crane County

Church & Fields' No. 5 Duall-University, located 990 feet from west and 1,650 feet from south of Section 39, Block 30, topped the pay at 2,870 feet, was drilled to a total depth of 3,015 feet and had an initial production of 200 bbls.

#### Culberson County

Grisham-Hunter's No. 1 fee, located 330 feet from south and west of Section 14, Block 59, T.&P.R.R. Survey, was dry and abandoned at a total depth of 3,513 feet.

#### Ector County

Landreth Production Corp.'s No. 1-T University, located 990 feet north and 440 feet east of SW cor. of Section 3, Block 35, University Land, topped the gas at 3,135-38 feet and estimated 18,000,000 feet and after 16 days gauged 5,021,000 feet of gas with 250 pounds rock pressure and was completed as a gas well at a total depth of 3,175 feet.

#### Howard County

Moody Corp.'s No. 21-E Roberts topped the pay at 2,375 feet, was drilled to a total depth of 2,680 feet and had an initial production of 60 bbls. Ward Oil Co.'s No. 20 Roberts, located in Section 137, Block 29, topped the pay at 2,987 feet, was drilled to a total depth of 3,000 feet and had a proration allowance of 492 bbls.

#### Jones County

Cranfill & Reynolds and California Co.'s No. 1 Stephens, located 990 feet from north and 3,630 feet from west of John McMullen Survey 337, was dry and abandoned at 2,877 feet.

#### Mitchell County

Gibson & Johnson's No. 2 Scott and others, located Section 7, Block 19, Lavaca Navigation Co., was dry and abandoned at 810 feet.

#### Pecos County

California Co.'s No. 6 M. A. Smith, located in Section 21, topped the pay at 1,637 feet, was drilled to a total depth of 1,713 feet and had an initial production of 500 bbls. California Co.'s No. 6 M. A. Smith, located in Section 37, Block 194, topped the pay at 1,485 feet, was drilled to a total depth of 1,526 feet and an initial production of 51 bbls. Continental Oil Co.'s No. 2-A University, located 330 feet south and 1,680 feet east of NW cor. Section 6, Block 17, University Land, was dry and abandoned at 2,185 feet. Harrison & Cromwell's No. 1 White Baker, located Section 42, Block 11, H.&G.N.R.R. Survey, was dry and abandoned at 1,847 feet. Humble Oil & Re-

(Continued on Page 73)

### WILDCAT OPERATIONS IN WEST TEXAS

**Week Ended February 10**

| Company, farm and location— | Remarks— |
|---|---|
| **ANDREWS COUNTY** | |
| Deep Rock Oil Co. et al's No. 1 Mathis, 990 ft. from S and W, Sec. 4, Blk. A-46, Public School Land | Moving in material. |
| Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land | Top pay 4,345 ft.; top lime 4,654 ft.; averaging 200 bbls. per day; total depth 4,428 ft.; est. 200 ft. water in hole 4,414-28 ft. |
| Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, School Blk. A-46 | Building rig. |
| **BORDEN COUNTY** | |
| Moncrief et al's No. 1 Munger, 1,980 ft. from N and E, Sec. 15, Blk. 31, Twp. 4-N, T.&P.R.R. Sur. | C. O. 2,700 ft. |
| Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur. | Top salt 1,080 ft.; shut down 2,540 ft. |
| **BREWSTER COUNTY** | |
| E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur. | Drlg. 2,714 ft. |
| Brewster Oil Co's No. 1 Fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur. | Fishing 1,935 ft. |
| Forrest Oil Co.'s No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur. | Drlg. 1,032 ft. |
| Trans-Pecos O. & G. Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.&S.F. R.R. Sur. | Drlg. 1,720 ft. |
| Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk 352, 7 mi. S of Alpine | Shut down 1,740 ft. |
| **COKE COUNTY** | |
| Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T. C. Sur., elev. 2,750 ft. | Shut down 2,892 ft. |
| Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor., Sec. 272, Blk. 1-A, H.&T.C. Sur. | Pay 3,755-56 ft.; plugging back to 3,755 ft. to shoot. |
| **CONCHO COUNTY** | |
| Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur. | Spudded and shut down. |
| Turner et al's No. 1 Borsig, 150 ft. from S of SE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock | Shut down 735 ft. |
| **CRANE COUNTY** | |
| Duffey et al's No. 7 Cowden Bros., 1,320 ft. from S and 1,420 ft. from E of Sec. 18, Blk. X, C.C.S.D.&R.G. N.G.R.R. Sur | Drlg. 2,405 ft.; top pay 2,340 ft. |
| Humble Oil & Ref. Co.'s No. 1-E University, 2,310 ft. from N and 930 ft. from E, Sec. 40, Blk. 30, University Land | Top salt 1,020 ft.; shut down 2,825 ft. |

(Continued on Page 112)

# Possible New Pool in Cooke County

## Wildcat in Carson County Flowing 20 Bbls. an Hour. Jack County Well Has 3,000 Feet of Oil in Hole. Discovery in Stephens

By L. E. Bredberg
*Fort Worth Bureau, The Oil and Gas Journal*

FORT WORTH, Tex., Feb. 10.—The Panhandle, Wichita Falls and Ranger districts all saw interesting discoveries during the week, some of them being rank wildcat discoveries and possibilities while others were merely the small extensions of old pools.

In the SW cor. of Cooke County, east of the town of Leo, the Lewis Production Co. encountered a good showing of oil in its No. 1 C. A. Willis, 1,866 feet from the south and 1,237 feet from the west of J. H. Broadnax Survey. A saturated lime was encountered from 1,760-80 feet, and broken sand and lime shells from 1,780-1,810 feet at which latter depth the well was shut down to test. The test is far from production in any direction and offers possibilities of opening a new pool in this part of the county, and throwing open much more territory to exploration. As soon as a test is made we can judge better as to whether a "play" will be started around it.

Another wildcat showing signs of making a producer in this part of Cooke County is the United Producers' No. 1 Alice Johnson, 150 feet from the south and west of the east 203 acres of the J. Clark Survey. It encountered a gas sand from 1,018-40 feet, and casing is now being set to give the well a test. It is 2 miles southeast of the town of Era. If neither of these tests makes a commercial producer the showings made will have been enough incentive to bring other tests on nearby acreage, and a pool may be uncovered because of these showings.

### Carson County Wildcat

In Carson County the Empire Gas & Fuel Co. brought in a rank wildcat in its No. 1 Fields, in the NE Section 13, Block 7, I.&G.N. Survey, 11 miles southwest of the nearest production in the Roxana Pool. It topped the granite wash pay at 3,200-05 feet and was completed at the latter depth flowing 20 bbls. per hour with 1,500,000 feet of gas, opening up a vast amount of new territory to possible production. Offset locations will no doubt be staked immediately and tests started at once to prove up the surrounding acreage, although drilling will be curtailed to a great extent because of Empire owning the acreage for a mile in each direction from the discovery.

### Zacaquiesta Pool

The Zacaquiesta Pool in central Wilbarger County was extended a short distance to the north when the Zenith Oil Co. completed its No. 2 George in the N half of the W half of Section 29, J. Poitevent Survey, for a 110-bbl. per hour well, gauging this amount per hour for four hours before being shut in for pipe line connection. It topped the oil sand at 2,197-2,213 feet and was shut in at the latter depth, proving up more acreage for production in this pool where many large wells have been completed within the past two months, and where drilling activities have been running at a maximum.

### Jack County Discovery

Prairie Oil & Gas Co. promised another discovery for Jack County when its No. 1 Munson in Section 3, B.S.&F. Survey, topped the pay at 4,685 feet and was shut down to run 6⅝-inch casing. There is 3,000 feet of oil standing in the hole, virtually proclaiming itself a commercial producer. As soon as the casing is run a test will be made to prove whether a new area is to be opened to production in this county.

### South of Riggs Pool

Three miles southeast of the Riggs Pool in Young County, Williams and others have a small well on their Tack lease. It is 150 feet from the north and east of the west 40 acres of the SW Section 263, T.E.&L. Survey. It topped an oil sand at 670 feet and is standing at 672 feet. After standing 12 hours the hole filled 600 feet. Next day it made a small flow and was tested on the following day, swabbing 5 bbls. per hour. It is now on the pump, but no pumping gauge has been reported. One mile west of this discovery is a dry hole, three-quarters of a mile northwest a dry hole defines the area in that direction, and another is 1½ miles to the northwest. Another dry hole defines the area a half mile to the northeast, therefore the pool does not look to have many prospects for expanding, except to the south, but it means the opening of another pool in this county which is greatly dotted by producing areas.

### Stephens Potential Discovery

In Stephens County the Universal Oil & Gas Co. has a potential discovery in its No. 1 Corbett, 3½ miles north of production. It topped the pay at 3,700 feet and was drilled to a total depth of 3,179 feet, later being shot with 120 quarts from 3,700-19 feet. After standing four days and allowed to accumulate, it swabbed 30 bbls. then filled 1,000 feet with oil and was swabbed down. Another shot will be given the test to bring it into the production class.

A late production report of the Eastland Pool, Coleman County, gives a daily production of 2,186 bbls., the Lloyd Pool south of Santa Anna a daily production of 546 bbls., and the Overall Pool with 19 wells making 856 bbls.

E. L. Smith and Levalma Petroleum Co. had a good showing of oil in their No. 1 Curry in the NE cor., Section 40, H.T.&B. Survey, Brown County, 2 miles north of production and 2 miles north of Grosvenor. This showing was encountered in sand at 1,428 feet and the hole bottomed at 1,438 feet to set 6-inch casing and test. This test may possibly be a north extension to the production in the pool to the south, and may prove up the intervening 2 miles to production.

### WICHITA FALLS COMPLETIONS
**Week ending February 8**

#### Archer County

J. F. Bailey's No. 1 Brown had an initial production of 23 bbls. at 1,291-92 feet. T. F. Hunter's No. 1 Kunkel had an initial production of 83 bbls. at 1,-162½-65 feet. Perkins & Cullum's No. 1 Richardson was dry and abandoned at 1,350 feet. Richard and others' No. 2 Young had an initial production of 27 bbls. at 1,415-22 feet.

#### Baylor County

Consolidated Oil Co. and others' No.. 8 Portwood had an initial production of 83 bbls. at 1,396-1,408 feet.

#### Young County

Bolin & Lindsey's No. 1 Wolf had an initial production of 125 bbls. at 875-94 feet. Their No.. 5 Wolf had an initial production of 70 bbls. at 858-94 feet. Carey & Martin's No. 1 Hill was dry and abandoned at 1,094 feet. Humble Oil & Refining Co.'s No. 1 Hightower was dry and abandoned at 1,354 feet. Panhandle Oil & Refining Co.'s No. 1 Taack was dry and abandoned at 855 feet. Pennell & Smith's No. 1 Jones location was abandoned. E. W. Walton's No. 1 Jones location was abandoned. Wish & Jackson's No. 2 Miller was dry and abandoned at 702 feet. D. L. Wolf's No. 3 Hill had an initial production of 25 bbls. at 1,021-29 feet. Womac Oil Co.'s No. 1 Roach had an initial production of 81 bbls. at 727-36½ feet. Paull Oil Co.'s No. 7 Allen was dry and abandoned at 2,270 feet.

#### Wilbarger County

Empire Gas & Fuel Co.'s No. 22 Waggoner had an initial production of 75 bbls. at 2,278-2,313 feet. Lido Oil Co.'s No. 2 Waggoner had an initial production of 260 bbls. in 24 hours at 2,683-94 feet. Lido Oil Co.'s No. 4 Waggoner had an initial production of 300 bbls. at 2,706-25 feet.

#### Wichita County

Bridwell Oil Co.'s No. 1 McFall was dry and abandoned at 1,837 feet. Coleman & Coppack's No. 22 Kemp & Kempner had an initial production of 40 bbls. at 1,759-75 feet. W. H. Hammon's No. 1 Mitchell had an initial production of 10 bbls. at 1,365-84 feet. Humble Oil & Refining Co.'s No. 20 Taylor was dry and abandoned at 1,847 feet.

### NORTH TEXAS PRODUCTION
**Week ending February 8**

| Panhandle District— | Prod. |
|---|---|
| Carson County | 9,442 |
| Hutchinson County | 24,813 |
| Gray County | 56,077 |
| Moore County | 500 |
| Potter County | ---- |
| Wheeler County | 769 |
| Total this week | 91,601 |
| Total last week | 87,865 |
| Increase | 3,736 |
| Wichita District— | |
| Archer County | 17,675 |
| Baylor County | 275 |
| Clay County | 870 |
| Cooke County | 5,190 |
| Foard County | 175 |
| Jack County | 4,590 |
| Haskell County | 62 |
| Montague County | 6,245 |
| Throckmorton County | 748 |
| Wilbarger County | 26,230 |
| Young County | 8,175 |
| Wichita County | 25,650 |
| Total this week | 95,885 |
| Total last week | 94,958 |
| Increase | 927 |
| Ranger District— | |
| Brown County | 8,780 |
| Callahan County | 3,610 |
| Coleman County | 4,995 |
| Comanche County | 1,158 |
| Palo Pinto County | 590 |
| Eastland County | 4,870 |
| Shackelford County | 9,210 |
| Stephens County | 5,445 |
| Total this week | 38,658 |
| Total last week | 39,462 |
| Decrease | 804 |
| Grand total this week | 226,144 |
| Grand total last week | 222,285 |
| Increase | 3,859 |

### RANGER COMPLETIONS
**Week ending February 8**

#### Brown County

Darby Petroleum Corp.'s No. 7 Belvin had an initial production of 50 bbls. at 1,287-1,311 feet. Powell and others' No. 1 Gaines was dry and abandoned at 1,-270 feet. L. E. Smith's No. 24 George was dry and abandoned at 1,315 feet.

#### Coleman County

Gault, Brown and others' No. 2 Stewardson was dry and abandoned at 2,011 feet. Kidney, Kamon & Western Exploration Co.'s No. 2 Pfluger had an initial production of 35 bbls. at 1,432-56 feet. Lloyd Oil Co.'s No. 6 Bartholemew had an initial production of 216 bbls. at 1,428-34 feet. Permian Oil Co.'s No. 1 Reeves had an initial production of 3 bbls. after having been shot with 20 quarts at 780-87½ feet. Simon & Jones' No. 1 Baker was dry and abandoned at 1,390 feet. Walter Gray's No. 1 Gray had an initial production of 500,000 feet of gas, 130-pound rock pressure at 1,635-67 feet. Magnolia Petroleum Co.'s No. 11 Morris was dry and abandoned at a total depth of 2,086 feet.

#### Callahan County

Holden & DeLange's No. 1 Johnson was dry and abandoned at 1,700 feet. Renaud & Prettyman's No. 1 Jackson was dry and abandoned at 1,167 feet. Transcontinental Oil Co.'s No. 1 Bowman was dry and abandoned at 1,802 feet. Union Oil Co. of Nevada's No. 2 Alexander had an initial production of

(Continued on Page 73)

### WILDCAT OPERATIONS IN TEXAS PANHANDLE

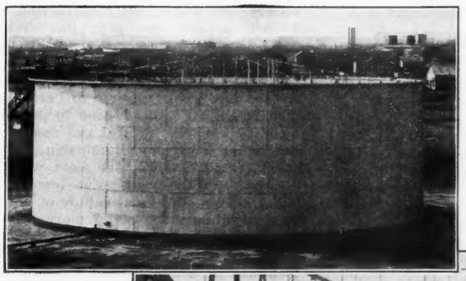
**Week Ending February 10**

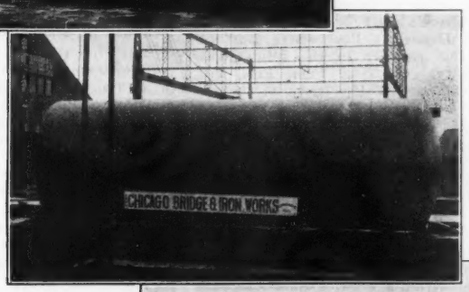
**CARSON COUNTY**

| Company, well, farm, name, section and block— | Remarks— |
|---|---|
| Champlin Ref. Co.'s No. 5 McConnell, 990 ft. S line, 330 ft. W line, N 120 ac. NW, Sec. 67, Blk. 4, I.&G.N. Sur. | Rigged up and S.D. |
| Danciger O. & R. Co.'s No. 1 Block, 330 ft. N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur. | S.D. 2,985 ft. |
| Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur. | S.G. 3,000-10 ft; S.D. 3,131 ft. |
| Empire G. & F. Co.'s No. 1 Fields, 1,650 ft. N and E, lines, Sec. 13, Blk. 7, I.&G.N. Sur. | Drlg. 3,090 ft. |
| Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E, SW, Sec. 3, Blk. 5, B.&B. Sur. | S.D. 3,000 ft. |
| Empire G. & F. Co.'s No. 1 Thorp, C NW, Sec. 26, Blk. T, A.B.&M. Sur. | Drlg. 3,170 ft. |
| Gulf Prod. Co.'s No. 1 Burnett-C, C SE SE, Sec. 35, Blk. 4, I.&G.N.R.R. Sur. | Location. |
| H.A.M. Oil Co.'s No. 1 Cooper, 330 ft. S and W, E½ NE, Sec. 5, Blk. 9, H.&G.N.R.R. Sur. | T.D. 3,105 ft; T.P. 3,102 ft; 2,000 ft. oil in hole. |
| Herragan Oil Co.'s No. 1-A McConnell, 330 ft. N and W, W½ SW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur. | T.D. 3,275 ft; G.W. 3,225-51 ft. and 3,265-75 ft; 1,300 ft. oil in hole. |
| McClintock et als' No. 2 Garner, 330 ft. W and S of E 55 ac., of N 80 ac., NW, Sec. 105, Blk. 4, I.&G. N.R.R. Sur. | Rig. |
| Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur. | Location. |
| Pansota Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SW, Sec. 111, Blk. 4, I.&G.N.R.R. Sur. | Drlg. 2,650 ft. |
| Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur. | 10,000,000 ft. gas 2,830-2,985 ft; S.D. 3,123 ft. |
| Red River Gas Co.'s No. 3 Lee Bivins-A, C, SE SE, Sec. 43, Blk. M-20, G.&M.R.R. Sur. | Drlg. 2,240 ft. |
| Ryan Cons Oil Co.'s No. 7 Block, 330 ft. N, 990 ft. W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur. | Drlg. 2,709 ft. |
| Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur. | S.D. 600 ft. |
| Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur. | 6,000,000 ft. gas 2,895-2,970 ft; S. D. 3,100 ft. |
| Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W, SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur. | S.D. 3,090 ft. |
| L. W. Timm's No. 2 Garnet (White Deer), 330 ft. S and W, NE cor., Sec. 104, Blk. 4, I.&G.N.R.R. Sur. | S.D. 1,008 ft. |

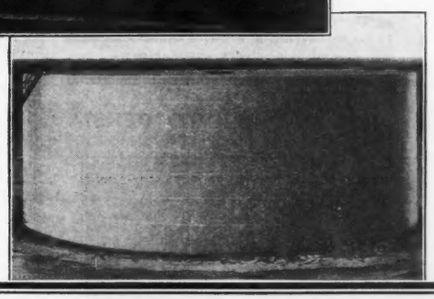
(Continued on Page 111)

# *We now have ~ a plant in* Birmingham *to serve the South*






Left: Refinery tank with Floating Roof. Center: Cylindrical tank ready for shipment. Below: Storage tank with Breather Roof.



Below, left to right: Elevated tank at refinery; Two Agitators; Hortonsphere for pressure storage; Six 15,000 Bbl. fuel oil tanks.

WE have purchased The Reeves Brothers Company plant in Birmingham, Alabama, and are operating it in conjunction with our other plants in Chicago, Greenville, Pa., and Bridgeburg, Ont.

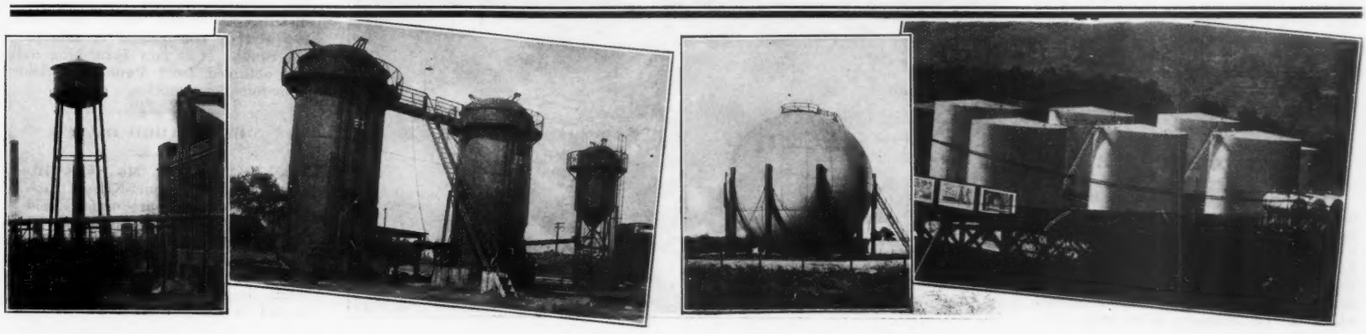
This new plant enables us to serve the South from a convenient central location. It is equipped to handle a wide range of steel plate work. In addition to our regular products such as *Storage tanks, Wiggins Roofs, Elevated tanks, Hortonspheres,* etc., we are now in a position to fabricate at Birmingham such special structures for the oil industry as *Bubble Towers, Agitators, Condenser boxes, Stills, Absorbers, Tank cars* and *Cylindrical Tanks.*

We will appreciate the opportunity of quoting you on any of these products, erected complete with our own experienced crews.

## CHICAGO BRIDGE & IRON WORKS

| | |
|---|---|
| Dallas | 3341 Magnolia Bldg. |
| Birmingham | 1536 Fiftieth St., North |
| Chicago | 2128 Old Colony Bldg. |
| New York | 3147 Hudson Terminal Bldg. |
| Cleveland | 2204 Union Trust Bldg. |
| San Francisco | 1054 Rialto Bldg. |
| Atlanta | 1054 Healey Bldg. |
| Detroit | 1514 Lafayette Bldg. |
| Philadelphia | 1615 Jefferson Bldg. |
| Boston | 1517 Consol. Gas Bldg. |

**Oil Storage Tanks • • • Wiggins Roofs • • • Hortonspheres • • • Rundown Tanks • • • Cylindrical Tanks • • • Elevated Tanks • • • Standpipes • • • Pressure Tanks • • • Agitators • • • Absorbers • • • Bubble Towers • • • Condenser Boxes • • • Crude Stills • • • Refinery Equipment • • • Tank Cars • • • Smokestacks • • • Gas Holders • • •**



# Pipe Line Construction News

## STEEL TRADE PICKS UP; PRODUCTION 70 PER CENT

By B. E. V. Luty

PITTSBURGH, Pa., Feb. 10.—Pipe and tube mills are still running at around 40 per cent, on an average, demand on the whole remaining light. In welded tubular goods there is a fair movement of standard or merchant pipe, chiefly butt weld. In seamless there is a fairly heavy movement of boiler tubes and the movement of oil country goods has been moderate for several months. Mechanical tubing is moving somewhat freely but never runs into large tonnage.

The steel industry as a whole has picked up farther in activity, to an extent that has surprised the trade, for estimates of current production run up to 75 per cent. Such estimates may be too high but it is reasonably certain steel is produced at fully 70 per cent.

Structural fabricating shops had their heaviest order books last September, since when shipments, which have been at a very high rate, have been slightly in excess of bookings, but the shops are still quite well filled. Thus far this year structural lettings have been rather light, but the period is too short to furnish any criterion for the season as a whole.

The automobile industry has been picking up in activity, but from such a low rate of production that even now the rate is low compared with rates at this date in other years. For both last year and the year before the automobile industry was understood to take about 18 per cent of the total steel production. Just now its proportion is considerably less and most of the steel producers state that the automobile industry is the poorest of their large customers.

Buying of freight cars has run light since October when fully 20,000 cars were reported bought. Right along there has been much talk about car inquiries, out and in prospect, but orders have not been eventuating in keeping. The car shops have a great deal of repair work and are kept moderately busy.

No irregularities are reported in pipe prices. Nearly all other finished steel products are showing some irregularity but there have been no further outright declines in the past week. As to the decline of $1 a ton in semifinished steel, making billets, slabs and sheet bars $33, there are reports that one or two mills would shade to $32, but the other mills would hardly meet such cuts, hence forging billets may still be quoted at $38 to $39.

Pig iron is rather dull all along the line but has been showing distinctly more activity than in December.

### BOOSTER STATION

The Colorado Interstate Gas Co., which operates the northern end of the Amarillo-Denver gas line, is starting work on a 5,000-horsepower compressor station at Devine, 10 miles east of Pueblo, Colo., to cost approximately $600,000. A similar plant will be built this year at Clayton, N. Mex. Increased use of gas has made the construction of the booster stations necessary.

### JACK COUNTY LINE

The Lone Star Gas Co. is to lay 12½ miles of 6-inch gas line from Section 72, Brazos River Indian Reservation to the Filmore Gasoline Corp.'s plant in the Isaac Hughson Survey in Jack County, Texas. There is about 3,000,000 feet of residue gas in the I. Hughson Survey which the gas company is to run.

### HUGOTON GAS LINES

WICHITA, Kan., Feb. 8.—A. J. Hardendorf of the Argus Gas Co. announces his company will start 15 tests for gas in the Hugoton Field of Stevens County within 60 days. The company has purchased all gas so far found in Stevens County, and is piping the fuel to 16 towns and cities in the western part of the state. The company also owns several blocks of leases in the gas field, on which the 15 tests will be started. The five producing wells in the county are producing around 12,000,000 feet of gas each daily.

## TWO LINES TO BE LAID TO RED COULEE FIELD

CASPER, Wyo., Feb. 8.—Two pipe lines will be laid at once to the new Buckley or Red Coulee Field, lying across the international boundary about 6 miles east of Coutts and Sweetgrass. The Illinois Pipe Line Co. will lay a pipe line to Sweetgrass and a connection with this company's line from the Sunburst Field on the Montana side; and the Maple Leaf Refining Co. will lay a line on the Canadian side of the line to a connection with the company's refinery at Coutts.

The Illinois Pipe Line Co. cannot operate in Canada and the end of the Sunburst line that lies across the boundary at Sweetgrass is the property of the Imperial Oil Co. Both pipe lines will be about 6 miles long and will be 6-inch pipe. With two lines operating in the field there is a likelihood of strenuous bidding for oil, though the laws of the United States and Canada regarding the importation and exportation of oil will prevent the shipments from Canadian wells coming into this country or the production from wells in Montana from going into the Canadian pipe line.

### LAYING KETTLEMAN LINE

SAN FRANCISCO, Calif., Feb. 10.—The Associated Oil Co.'s new pipe line at Kettleman Hills is nearing completion. This line, approximately 6 miles in length, will handle the production of the Petroleum Securities' No. 1 Felix.

## PIPE LINE DEVELOPMENT IN VENEZUELA FIELD

NEW YORK, Feb. 8.—Colon Oil Corp., Royal Dutch subsidiary, which has been conducting on extensive program of pipe line and field development in Venezuela, has started shipping crude. The first shipment from the Colon shipping terminal at Solita, near the mouth of the Escalante River, consisted of 19,000 bbls.

The company's 8-inch pipe line extends from its main storage tank farm at Casigua, in the Tarra Field, to Boca Escalante, approximately 90 miles. There are four pumping stations on the line. Construction of the line was completed five months ahead of the scheduled time. Colon Development Co., Ltd., producing subsidiary of Colon Oil Corp., has developed considerable crude production in its field development program, and it is expected that the Tarra Field will now become a regular shipper.

## HUMBLE AND BURFORD LINES TO PENN POOL

FORT WORTH, Tex., Feb. 11.—The Humble Pipe Line Co. contemplates laying a 6-inch line from the Penn Pool, Ector County, to its line running through Crane County from Winkler to McCamey. The 6-inch line will be approximately 12 miles in length.

Burford Pipe Line Co. has six cars of pipe on siding at Odessa and crews and ditcher are at work on line from Penn Pool to Hendricks Pool where Burford has a line running to the refinery at Pecos City. Oil from Penn Pool will be run by way of Hendricks to the refinery.

### OHIO OIL-ILLINOIS PIPE LINE

Stock of Illinois Pipe Line Co. is still being deposited in exchange for Ohio Oil Co. new 6 per cent preferred to consummate merger of the two companies, and no date has been set for expiration of the offer. A definite date is expected to be set within a week. Deposits to date are described as "very satisfactory."

## PIPE LINE CLIMBING THE IMAM RIZA RIDGE, PERSIA

### N. T. LOOP FINISHED

BRADFORD, Pa., Feb. 8.—The 10-mile pipe line loop of the National Transit Co. from Duke Center to Kane is complete and is expected to prove a boon to producers as it will relieve the field of between 5,000 and 10,000 bbls. daily.

The line was laid through rough, rocky country which necessitated hand excavation due to the fact that other lines in the neighborhood made the use of dynamite unsafe.

The line was built by Rich & Co. At times over 200 men were employed on the job that work might be hurried to completion as quickly as possible.

## LINE TO OKLAHOMA CITY FOR CITIES SERVICE CO.

Cities Service Gas Co., an Empire subsidiary, has announced construction of a 20-inch natural gas pipe line from a point 15 miles south of Perry, Okla., into the Oklahoma City Field. This line, 50 miles in length, is an extension of the 20-inch line from Dilworth to Perry, completed last fall. In addition to providing an outlet for the natural gas reserves of the Indian Territory Illuminating Oil Co. the line will connect the field with the company's natural gas pipe line system and make an additional supply of natural gas available to industrial markets.

The line, which will have a potential capacity of approximately 100,000,000 feet, will be completed early in the summer.

Statements issued by Henry L. Doherty & Co., announcing the purchase of the Foster Petroleum Corp. by the Indian Territory Illuminating Oil Co., said: "From the drilling already done in the Oklahoma City area, it is now certain that this pool will prove to be one of the largest oil reserves ever found in this country. In addition, large flows of gas have been found at depths of 3,800, 5,000 and 6,400 feet. Indian Territory wells drilled into the deeper horizons have proved large reserves of gas and one well gauged at the rate of 180,000,000 feet daily. The gas subsidiaries of the Cities Service Co. are now constructing pipe lines into this field, in order to connect this enormous reserve with their markets."

## SOUTH PLAINS PIPE PLANS 500-MILE LINE

LUBBOCK, Tex., Feb. 8.—South Plains Pipe Line Co., subsidiary of Prairie Oil & Gas Co., has adopted plans for the construction of approximately 500 miles of additional natural gas pipe lines in northwest and west Texas. This expansion program is to be carried out during the present year.

The new pipe lines will form part of the extensive natural gas pipe line and distributing system which the company has already constructed in this part of the State. It is now furnishing natural gas obtained from Panhandle fields to numerous communities.

### BUYS WOOD OIL CO.

KANSAS CITY, Mo., Feb. 10.—Entrance of the Missouri-Kansas Pipe Line Co. into the oil production field was announced today in connection with purchase of the Wood Oil Co. of Kentucky by the pipe line concern. Leasehold rights to 51,000 acres of oil and gas lands in western Kentucky were included in the purchase.

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## You helped us establish this *New* Division!

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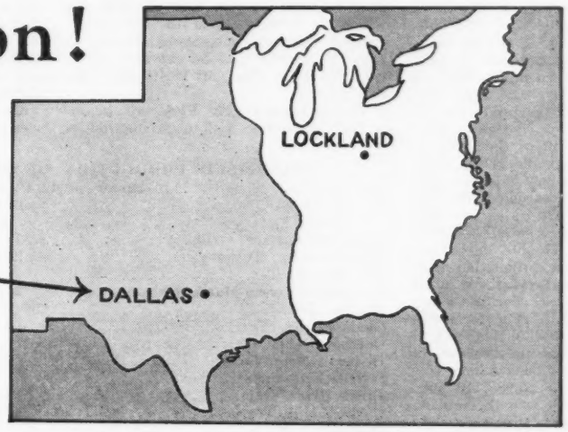
MANAGER OF WESTERN DIVISION . . .
MR. R. B. HALL




NOW, you will find Carey service broader and more quickly available than ever before. With Western Division Headquarters established at Dallas—our Oil Industries Department is enabled to closely cooperate with you—fill your needs promptly and efficiently. Mr. Hall—Division Manager—and all his men talk *your* language—think *your* problems. You'll find it well worth your while to stop in headquarters, whenever you're in Dallas. Or write, for full information concerning any of the Carey products, listed below.

*Carey Asbestos Pipe Line Felt*—Safeguards oil and gas lines against corrosion—insures efficient pipe line operation at minimum cost.

*Carey Heat Insulations*—For boilers, stills, steam-pipes, condensers, etc. Carey Hi-Temp No. 12; Carey Asbestos; Carey 85% Magnesia.

*Carey Corrugated Asbestos Roofing and Siding*—Reduces fire hazard to a minimum. Use it for meter houses, distillation sheds, refineries and similar buildings.

*Carey Asbestos Built-up Roofing*—Used where fire hazard and acid fumes are present.

*Carey Feltex Built-up Roofing*—For vast roof areas—where contraction and expansion are present, and where there is excessive vibration. Also specified for use in combination with Carey Asbestos Built-up Roofing.

*Carey Prepared Roofings*—Roll roofing for temporary construction such as temporary field buildings, etc.

THE PHILIP CAREY COMPANY
*Lockland,* Cincinnati, Ohio

WESTERN DIVISION OF OIL INDUSTRIES DEPARTMENT
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107 Buffalo Street
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# Ups and Downs in Production in 1929

## Last Year's Crop of New Pools Included Some Notably Big Ones. Twenty-four Major Pools Increased Output

By James McIntyre

The production figures for 1929 are worthy of careful scrutiny and analysis. Not only do they show an increase in the production of the United States of 106,271,458 bbls. over the record of 1928, but they show that of this increase, 36,709,786 bbls. came from pools that were opened last year and therefore were developed only on a small scale in the remaining days of the year. They show further that the pools opened in 1928, and which produced only 3,070,628 bbls. in that year, produced 45,495,424 bbls. in 1929. The pools discovered in 1928 and 1929 had a combined production last year of 82,205,210 bbls., and their production last year over the production in 1928 of the 1928 crop of pools represents nearly 75 per cent of the total increase in 1929. Twenty-one major pools that antedate 1928, some of them running back many years, supplied 151,287,434 bbls. more in 1929 than in 1928. Here we have an increase of 230,422,016 bbls., or 130,254,577 bbls. more than represented by the net production gain of the country. Therefore, there must have been a very great decline somewhere, and it is found in 44 major pools, which produced 100,167,439 bbls. less in 1929 than in 1928 and in the host of smaller pools and old fields which registered a net decline of 23,983,119 bbls. last year, in spite of the fact that among these fields more than two years old were some minor pools that showed an increased production last year, notably the Muskegon and Mount Pleasant Pools in Michigan, and several pools of Lea County, New Mexico.

### Ups and Downs in Major Pools

Twenty-four of the leading fields of the United States, old and new, showed an increase in production in 1929 aggregating 189,192,765 bbls., or an average of 518,336 bbls. per day.

Forty-four of the leading fields of the United States produced 100,167,439 bbls. less in 1929 than in 1928, or an average decline of 274,431 bbls. per day.

Twenty-seven pools opened in 1928, which produced in that year a total of 3,070,628 bbls., or 8,412 bbls. per day, increased their production last year to 45,495,424 bbls., or 124,645 bbls. per day.

Forty-one pools opened in 1929 produced 36,709,786 bbls. last year, an average of 100,520 bbls. per day. The 1928 crop of new pools produced 15 times more oil in their second year than in their first. Fortunately the 1929 crop of pools cannot be expected to duplicate that, because if they did they would produce over 500,000,000 bbls. in 1930. But it is an assured fact that unless they are held back throughout the year they will greatly exceed their first year's output of crude. Among them are such flush pools as Oklahoma City, Oklahoma; Pampa, Texas; Van, Texas; Penn Pool in Ector County, Texas; East Earlsboro, Oklahoma; East Little River, Oklahoma; Voshel and Ritz Pools in McPherson County, Kansas; and Refugio, Texas; All pools that have either not been permitted to produce 100 per cent or have not been developed sufficiently to bring them to their peak.

### Santa Fe Springs' Leadership

To go back to the 24 leading fields of increased production, the greatest gain was in Santa Fe Springs, California, where deeper drilling uncovered a production that brought the total for the year to 76,477,464 bbls., an increase of 60,383,533 bbls. The Yates Pool in Texas and the new small pools outside of the Yates area, but in Pecos County, increased their production 19,060,080 bbls. last year and could easily have equaled the Santa Fe Springs production had there been a market for the oil. The Joe Bruner Pool, a discovery of 1928, saw its best year in 1929. It showed an increase of 16,377,618 bbls., but was on the decline before the end of the year. The St. Louis-Pearson-Maud areas which increased 14,839,291 bbls. over 1928 was also on the decline in the course of last year. Gray County, in the Texas Panhandle, was under curtailment for a good part of the last half of 1929 and while the new pools in the county increased the total output by 10,610,519 bbls. the county may be expected to exceed its 1929 total of 18,406,384 bbls. this year.

The Oklahoma City Field which was a 1928 discovery with a production of only 110,496 bbls. in that year (it was opened in December), produced 8,709,727 bbls. in 1929 and under very severe restrictions. Its 1930 output may be measured by actual requirements. It can flood the market and almost demolish the price structure. With all the wells that are drilling in the field at this time it will be a difficult matter to keep it in check. There are at this writing 94 oil wells in the field capable of producing 700,000 bbls. for one day. There are at the same time 80 wells below 6,000 feet and therefore not far removed from the complete stage; 31 drilling between 5,000 and 6,000 feet; 22 between 4,000 and 5,000 feet, and 45 which have not yet reached the 4,000-foot level. With ordinary luck in drilling, the last of these 178 wells can be completed by the end of May, and half of them, at least, between this date and the middle of March, so it may be seen that the task of keeping the Oklahoma City Field curtailed to pipe line requirements will necessitate the actual shutting in of a large number of productive wells before the arrival of the midyear.

The new pools in McPherson County, Kansas, are also regarded as potentially large producers, and upon the completion of the half hundred wells now drilling in that area the Voshel-Ritz district will have the same important bearing on Kansas production that the Sedgwick County pools did in 1929. Lea County, New Mexico, with its scattered pools already discovered and a wildcatting campaign backed by a firm conviction that another Hendricks Pool may reward some wildcatter, is also a possibility worthy of much consideration. The Refugio Field in the Gulf Coastal area of Texas should exceed its 1929 production this year, and Van Zandt County, in East Central Texas, with one pool already showing big wells, may ascend to the major pool class early this year even though it is being unitized and restricted

(Continued on Page 141)

**INCREASED PRODUCTION OF MAJOR POOLS IN 1929**
(In barrels of 42 U. S. gallons)

| Pool— | Production in 1928 | Production in 1929 | Increase in 1929 |
|---|---|---|---|
| Santa Fe Springs, Calif. | 16,093,931 | 76,477,464 | 60,383,533 |
| Pecos County, Texas | 22,673,875 | 41,733,955 | 19,060,080 |
| Joe Bruner, Tex. | 178,430 | 13,556,048 | 16,377,618 |
| St. Louis-Pearson-Maud, Okla. | 21,878,954 | 36,718,245 | 14,839,291 |
| Pampa, Tex. | 7,795,865 | 18,406,384 | 10,610,519 |
| Chalk-Settles, Tex. | 4,692,236 | 14,826,190 | 10,133,954 |
| Oklahoma City, Okla. | 110,496 | 8,709,727 | 8,599,231 |
| Elwood-Goleta, Calif. | 895,152 | 9,435,819 | 8,540,667 |
| Sedgwick County, Kansas | 378,851 | 8,899,688 | 8,520,837 |
| Little River, Okla. | 24,447,158 | 28,909,393 | 4,462,235 |
| Barbers Hill, Tex. | 306,177 | 4,523,350 | 4,217,173 |
| DeWalt, Tex. | 391,244 | 4,016,401 | 3,625,157 |
| Marshall-Lovell, Okla. | 2,692,520 | 5,759,444 | 3,066,924 |
| Bradford-Allegany, Pa.-N. Y. | 8,418,000 | 11,274,000 | 2,856,000 |
| Wilbarger County, Texas | 8,124,626 | 10,411,183 | 2,286,557 |
| Ventura Avenue, Calif. | 18,920,942 | 20,934,388 | 2,013,446 |
| Allen, Okla. | 6,958,689 | 8,971,530 | 2,012,841 |
| Seal Beach Calif. | 12,436,371 | 14,418,305 | 1,981,934 |
| Humble, Tex. | 1.263,983 | 2,996,409 | 1,732,426 |
| Pierce Junction, Tex. | 3,983,484 | 5,193,061 | 1,209,577 |
| Mirando, Tex. | 3,098,196 | 4,165,620 | 1,067,424 |
| Kern River, Calif. | 5,071,284 | 6,089,344 | 1,018,060 |
| Shackelford County, Texas | 3,639,368 | 4,145,166 | 505,798 |
| Rosecrans, Calif. | 2,392,325 | 2,463,808 | 71,483 |
| Total | 176,842,157 | 363,034,922 | 189,192,765 |

**DECREASED PRODUCTION OF MAJOR POOLS IN 1929**
(In barrels of 42 gallons)

| Pool— | Production in 1928 | Production in 1929 | Decrease in 1929 |
|---|---|---|---|
| Burkburnett, Tex. | 4,031,011 | 3,597,936 | 433,075 |
| Electra, Tex. | 4,627,192 | 4,601,996 | 25,196 |
| Archer County, Texas | 7,374,445 | 6,592,594 | 781,851 |
| Borger, Tex. | 13,839,632 | 9,709,746 | 4,129,886 |
| Brown County, Texas | 4,257,149 | 3,147,236 | 1,109,913 |
| Big Lake, Tex. | 7,039,043 | 6,425,664 | 613,379 |
| Church-Fields, Texas | 15,201,106 | 8,915,937 | 6,285,169 |
| Hendricks, Tex. | 58,893,863 | 49,826,190 | 9,067,673 |
| McCamey-Taylor, Tex. | 4,513,104 | 3,378,753 | 1,134,351 |
| McElroy, Tex. | 5,544,081 | 4,887,084 | 656,997 |
| Luling, Tex. | 5,097,808 | 4,246,861 | 850,947 |
| Hull, Tex. | 4,115,268 | 3,488,869 | 626,399 |
| Spindletop, Tex. | 14,332,357 | 10,183,684 | 4,148,673 |
| Powell, Tex. | 4,059,389 | 2,884,177 | 1,175,212 |
| Midway-Sunset. Calif. | 27,314,093 | 25,310,976 | 2,003,117 |
| Elk Hills, Calif. | 8,107,198 | 6,353,035 | 1,754,163 |
| Coalinga, Calif. | 4,655,284 | 3,558,843 | 1,096,441 |
| Fullerton, Calif. | 5,743,044 | 4,813,942 | 929,102 |
| Coyote, Calif. | 4,901,988 | 4,176,035 | 725,953 |
| Montebello, Calif. | 4,369,638 | 3,657,922 | 711,716 |
| Richfield, Calif. | 6,798,673 | 5,776,258 | 1,022,415 |
| Huntington Beach, Calif. | 19,642,278 | 16,007,030 | 3,635,248 |
| Long Beach, Calif. | 62,467,103 | 60,495,555 | 1,971,548 |
| Torrance, Calif. | 6,454,067 | 5,000,218 | 1,453,849 |
| Inglewood, Calif. | 10,762,797 | 8,768,101 | 1,994,696 |
| Dominguez, Calif. | 4,267,009 | 3,606,850 | 660,159 |
| Seminole City, Okla. | 18,237,004 | 11,291,330 | 6,315,674 |
| Earlsboro, Okla. | 33,321,824 | 25,602,005 | 7,719,819 |
| Bowlegs, Okla. | 23,800,896 | 12,122,250 | 11,678,646 |
| Searight, Okla. | 5,218,241 | 3,867,349 | 1,350,892 |
| Sholem-Alechem, Okla. | 5,328,386 | 4,829,057 | 499,329 |
| Burbank, Okla. | 13,060,449 | 7,435,589 | 5,624,860 |
| Tonkawa, Okla. | 4,878,203 | 3,518,176 | 1,360,027 |
| Bristow, Okla. | 5,624,601 | 5,295,920 | 328,681 |
| Cushing-Shamrock, Okla. | 6,521,413 | 5,988,122 | 533,291 |
| Cromwell, Okla. | 3,386,553 | 2,867,933 | 518,620 |
| Healdton, Okla. | 5,068,978 | 4,599,309 | 469,669 |
| Augusta, Kans. | 9,690,889 | 9,272,141 | 418,748 |
| Greenwood County, Kansas | 9,872,560 | 7,920,990 | 1,951,570 |
| Sumner County, Kansas | 7,787,738 | 4,566,556 | 3,221,182 |
| Smackover, Ark. | 24,775,769 | 19,666,126 | 5,109,643 |
| El Dorado-Champagnolle, Ark. | 5,617,219 | 4,485,371 | 1,131,848 |
| Caddo, La. | 4,888,365 | 4,652,047 | 236,318 |
| Salt Creek, Wyo. | 14.066,816 | 11,365,322 | 2,701,494 |
| Total | 519,554,524 | 419,387,085 | 100,167,439 |

**POOLS OPENED IN 1928 AND 1929**
(With their production in both years in barrels)

| Field— | Total prod. in 1928 | Total prod. in 1929 |
|---|---|---|
| Oklahoma City, Okla. | 110,496 | 8,709,727 |
| Garrett, Okla. | 6,162 | 9,830 |
| Ward County, Texas | 3,534 | 393,260 |
| Fisher County, Texas | 177,146 | 426,674 |
| Scurry County, Texas | 7,340 | 7,766 |
| Dewalt, Tex. | 391,244 | 4,016,401 |
| Allen Dome, Texas | 15,879 | 3,912 |
| Fannett, Tex. | 4,711 | 324,901 |
| North Dayton, Tex. | 226,427 | 219,435 |
| Raccoon Bend, Tex. | 111,417 | 2,082,595 |
| Refugio, Tex. | 25,312 | 2,063,475 |
| Joe Bruner, Tex. | 178,430 | 13,556,048 |
| Larremore, Tex. | 6,076 | 64,188 |
| Yoast, Tex. | 6,353 | 515,401 |
| Moore County, Texas | 309,334 | 481,639 |
| Boggy Creek, Tex. | 309,272 | 1,115,553 |
| Rooks County, Kansas | 11,461 | 15,741 |
| Sedgwick County, Kansas | 378,851 | 8,899,688 |
| Alkali Butte, Wyoming | 5,721 | ..... |
| Ant Hills, Wyo. | 1,909 | 589 |
| Lee County, New Mexico | 56,198 | 740,165 |
| Pondera, Mont. | 127,925 | 985,205 |
| Bayou Bouillon, La. | 237,561 | 82,225 |
| Sorrento, La. | 237,066 | 117,027 |
| Loreauville, La | 1,737 | ..... |
| Potrero, Calif. | 107,380 | 271,446 |
| Lawndale, Calif. | 15,686 | 392,533 |
| Capitan, Calif. | ..... | 2,795 |
| Santa Barbara, Calif. | ..... | 10,868 |
| Playa Del Rey, Calif. | ..... | 25,121 |
| Hill County, Texas | ..... | 6,547 |
| Van, Tex. | ..... | 122,139 |
| Haskell County, Texas | ..... | 4,650 |
| Foard County, Texas | ..... | 40,581 |
| Jackson County, Texas | ..... | 21,793 |
| Zwolle, La. | ..... | 171,846 |
| Sarepta, La. | ..... | 116,567 |
| Branton, Tex. | ..... | 8,294 |
| Gray County, Texas (new pools) | ..... | 11,106,000 |
| Darst Creek, Tex. | ..... | 228,876 |
| Maverick, Tex. | ..... | 293 |
| Ector County, Texas | ..... | 12,395 |
| East Earlsboro, Okla. | ..... | 6,547,492 |
| East Little River, Okla. | ..... | 5,675,682 |
| East Seminole, Okla. | ..... | 1,186,009 |
| Asher, Okla. | ..... | 1,831,585 |
| Carr City, Okla. | ..... | 3,309,094 |
| Beebe, Okla. | ..... | 427,525 |
| Sasakwa, Okla. | ..... | 1,792,519 |
| Davis, Kans. | ..... | 256,038 |
| Trego County, Kansas | ..... | 6,000 |
| McPherson County, Kans. | ..... | 286,805 |
| Hankamer, Tex. | ..... | 25,527 |
| Clay Creek, Tex. | ..... | 796,434 |
| Lost Lake, Tex. | ..... | 98,377 |
| Jasper, Tex. | ..... | 7,919 |
| Port Neches, Tex. | ..... | 241,815 |
| Refugio, Tex. | ..... | 2,063,475 |
| Sheeks, Tex. | ..... | 52,892 |
| Black Bayou, La. | ..... | 32,508 |
| Dog Lake, La. | ..... | 3,468 |
| Lake Pelto, La. | ..... | 26,335 |
| Port Barre, La. | ..... | 44,558 |
| Bayou Blue, La. | ..... | 10,965 |
| Lake Barre, La. | ..... | 49,966 |
| New Iberia, La. | ..... | 2,090 |
| White Castle, La. | ..... | 14,284 |
| Frannie, Wyo. | ..... | 41,659 |
| Total | 3,070,628 | 82,205,210 |

## MECHANICAL ENGINEERS OBSERVE ANNIVERSARY

During the early part of April there will be held a series of meetings in New York City and Washington, D. C., that should be of considerable significance to the mechanical engineers of this country, for the American Society of Mechanical Engineers will at that time celebrate the fiftieth anniversary of its organization.

On April 5 a meeting is to be held at Stevens Institute, Hoboken, N. J., in the same room in which the first meeting was held in 1880 on the same date, at which time the society was founded.

There will also be a meeting at the same time in the rooms of the American Machinist, where the preliminary meeting to organize was held in February, 1880. The party will then go to Washington on Sunday, April 6, where the celebration will be continued on April 7, 8 and 9.

From the small beginning in 1880 the American Society of Mechanical Engineers has extended until it now has about 19,000 members scattered all over the world and numbers among its members many of the leaders of the engineering profession.

## WEST TEXAS FIELDS

(Continued from Page 67)

fining Co.'s No. 13 Smith topped the pay at 1,400 feet, was drilled to a total depth of 1,470 feet and had an initial production of 65 bbls. Independent Oil & Gas Co.'s No. 1 Phelps, located Section 26, Block 11, H.&G.N.R.R. Survey, was dry and abandoned at 2,401 feet. Kirby Petroleum Co.'s No. 1 Belgrade Ranch Co., located Section 2, T.C.R.R. Survey, was dry and abandoned at 1,625 feet. Landreth & Henshaw's No. 2-E University, located Section 13, Block 18, University, topped the pay at 1,675 feet, was drilled to a total depth of 1,707 feet and had an initial production of 85 bbls. Their No. 3-A University, located in the same section and block, topped the pay at 968 feet, was drilled to a total depth of 984 feet and had an initial production of 60 bbls. Mazda Oil & Gas Co.'s No. 1 Cordova Union Land Co., located in Section 103, Block 11, H.&G.N.R.R. Survey, was dry and abandoned at 1,804 feet. H. T. O'Neal's No. 1 Powers, located Section 1, Block 132, T.&S.T.R.R. Survey, moved off machine at total depth of 200 feet. Transcontinental and Arkansas Fuel Co.'s No. 1 Smith, located Section 10, Block 194, topped the pay at 1,441 feet, was drilled to a total depth of 1,520 feet and had an initial production of 150 bbls. at 1,495-1,500 feet.

### Upton County

Pure Oil Co.'s No. 4 Hughes, located 330 feet south and east of SW cor. of Snowden-McSweeney lease, topped the pay at 2,223 feet, was drilled to a total depth of 2,350 feet and had an initial production of 42 bbls.

### Ward County

Fugler and others' No. 1 Townsite, located in Section 7, Block 32, and in Section 11, Block 5, H.&T.C.R.R. Sur., topped the pay at 2,151 feet, was drilled to a total depth of 2,186 feet and had an initial production of 40 bbls.

### Winkler County

Humble Oil & Refining Co.'s No. 2-B Walton topped the pay at 2,770 feet, was shot with 390 quarts at 2,826-2,970 feet and had an initial production of 397 bbls.

#### DAILY AVERAGE PRODUCTION BY LEASES

#### WINKLER COUNTY

**Week Ending February 4, 1930**

| Company, farm, Sec. Blk. | Wells | Prod. |
|---|---|---|
| Amerada Pet. Corp.: | | |
| Cowden, 3, B-12 | 3 | 22 |
| Atlantic O. P. Co.: | | |
| Hendricks-A, 34, B-12 | 7 | 1,576 |
| Hendricks-B, 44, 26 | 6 | 581 |
| Hendricks-D, 29, B-5 | 7 | 483 |
| Hendricks-E, 41, B-5 | 5 | 572 |
| Hendricks-F, 40, 26 | 12 | 434 |
| Hendricks-G, 46, 26 | 1 | 15 |
| Bankers Prod. Co.: | | |
| Hendricks, 30, B-5 | 1 | .... |
| V. T. Bolin: | | |
| Brown-Altman, 4, B-5 | 1 | .... |
| California Co.: | | |
| Hendricks, 29, B-5 | 7 | 502 |
| Continental Oil Co.: | | |
| Hendricks, 33, 26 | 4 | 499 |
| Hendricks-A, 29, 26 | 1 | 70 |
| Hendricks-B, 34, 26 | 2 | 10 |
| Cranfill & Reynolds: | | |
| Hendricks-A, 28, B-5 | 2 | 182 |
| Hendricks-B, 33, B-5 | 1 | 63 |
| Hendricks-C, 33, 26 | 2 | 253 |
| Hendricks-E, 33, 26 | 2 | 89 |
| Cranfill and Texon: | | |
| Hutchings, 47, 26 | 2 | 325 |
| Culberson Bros.: | | |
| Hendricks, 40, B-5 | 1 | 54 |
| Eastland Oil Co.: | | |
| Hendricks, 35, B-5 | 2 | 326 |
| Hendricks-B, 46, 26 | 1 | 126 |
| Gulf Prod. Co.: | | |
| Hendricks-A, 34, B-5 | 13 | 4,487 |
| Hendricks-B, 45, 26 | 11 | 2,505 |
| Hendricks-C, 40, B-5 | 6 | 350 |
| Hendricks, 44, 26 | 3 | 520 |
| Cowden, 3, B-12 | 3 | 91 |
| Humble Oil & Ref. Co.: | | |
| Hendricks-A, 34, B-5 | 16 | 4,191 |
| Hendricks-B, 29, B-5 | 6 | 1,225 |
| Hendricks-C, 32, 26 | 8 | 375 |
| Hendricks-D, 41, 26 | 1 | 337 |
| Hendricks-B, 39, 26 | 3 | 181 |
| Hendricks-C, 10, B-12 | 13 | 5,732 |
| Walton-A, 8, 26 | 1 | 71 |
| Walton-B, 47, 26 | 1 | 358 |
| Independent Oil & Gas: | | |
| Hendricks-A, 34, B-5 | 7 | 691 |
| Howe-B, 44, 26 | 3 | 61 |
| McCabe, 36, B-5 | 2 | 158 |
| Vardeman-B, 41, B-5 | 5 | 197 |
| Lion Oil Co.: | | |
| Hendricks-A, 41, B-5 | 11 | 1,672 |
| Hendricks-B, 34, B-5 | 13 | 2,310 |
| Hendricks-C, 45, 26 | 14 | 3,420 |
| Hendricks-D, 44, 26 | 1 | 84 |
| Magnolia Pet. Co.: | | |
| Hendricks, 29, B-5 | 8 | 375 |
| May Prod. Co.: | | |
| Hendricks, 34, 26 | 1 | 10 |
| American Maracaibo: | | |
| Hendricks-A, 28, B-5 | 1 | 16 |
| Hendricks-B, 28, B-5 | 2 | 80 |
| Mining & Engineering: | | |
| Hendricks, 10, B-12 | 1 | .... |
| Murchison & Cranfill: | | |
| Hendricks-A, 35, B-5 | 2 | 199 |
| Hendricks-B, 35, B-5 | 3 | 329 |
| Hendricks-C, 35, B-5 | 1 | .... |
| Hendricks-H, 35, B-5 | 1 | 407 |
| Hendricks-I, 34, B-5 | 1 | 61 |
| Republic Prod. Co.: | | |
| Hendricks-A-B, 45, 26 | 12 | 1,499 |
| Hendricks-C, 41, B-5 | 5 | 90 |
| Prairie Oil & Gas Co.: | | |
| Hendricks, 40, 26 | 6 | 1,052 |
| Cowden, 3, B-12 | 6 | 1,295 |
| Shell Pet. Corp.: | | |
| Hendricks-A, 45, 26 | 6 | 845 |
| Hendricks-B, 29, B-5 | 6 | 1,367 |
| Hendricks-C, 29, B-5 | 8 | 248 |
| Hendricks-D, 41, B-5 | 6 | 93 |
| Hendricks-E, 40, B-5 | 3 | 73 |
| Hendricks-F, 46, 26 | 8 | 162 |
| Hendricks-G, 39, 26 | 1 | 59 |
| Shell-The Texas Company: | | |
| Cowden-A, 3, B-12 | 6 | 1,261 |
| Hendricks, 45, 26 | 6 | 2,064 |
| Hendricks-A, 29, B-5 | 11 | 599 |
| Hendricks-B, 40, 26 | 6 | 65 |
| Hendricks-C, 40, 26 | 6 | 1,047 |
| Hendricks-D, 40, 26 | 6 | 165 |
| Hendricks-E, 39, 26 | 4 | 65 |
| Skelly Oil Co.: | | |
| Hendricks, 40, 26 | 12 | 2,324 |
| Hendricks-B, 10, B-12 | 2 | 15 |
| Hendricks-C, 30, 26 | 1 | 48 |
| Southern Crude O. P. Co.: | | |
| T-67 Hendricks-A, 42, B-5 | 3 | 127 |
| T-67 Hendricks-3-A, 4, B-12 | 6 | 240 |
| T-67 Hendricks-B, 44, 26 | 5 | 330 |
| T-67 Hendricks-3-B, 33, 26 | 5 | 390 |
| T-67 Hendricks-C, 33, B-5 | 5 | 425 |
| T-67 Hendricks-D, 27, 26 | 5 | 838 |
| T-67 Hendricks-E, 42, B-5 | 4 | 58 |
| T-67 Hendricks-F, 33, B-5 | 5 | 436 |
| T-68 Hendricks-3-A, 35, B-5 | 3 | 89 |
| T-68 Hendricks-B, 46, 26 | 2 | 120 |
| T-88 Hendricks-A, 44, 26 | 6 | 520 |
| T-88 Hendricks-B, 4, B-12 | 4 | 91 |
| T-88 Hendricks-C, 28, B-5 | 8 | 955 |
| T-88 Hendricks-D, 4, B-12 | 6 | 1,444 |
| T-88 Hendricks-H, 28, B-5 | 7 | 524 |
| T-88 Hendricks-I, 29, B-5 | 7 | 330 |
| T-88 Hendricks-J, 30, B-5 | 5 | 412 |
| T-88 Hednricks-K, 41, 26 | 7 | 811 |
| T-88 Hendricks-L, 4, B-12 | 4 | 263 |
| T-88 Hendricks-M, 35, 26 | 33 | 8,854 |
| T-88 Hendricks-N, 28, 26 | 7 | 2,044 |
| T-88 Hendricks-O, 22, 26 | 4 | 475 |
| T-88 Hendricks-P, 28, 26 | 2 | 258 |
| T-88 Hendricks-Q, 27, 26 | 2 | 651 |
| T-88 Hendricks-R, 27, 26 | 3 | 3,580 |
| T-88 Hendricks-S, 34, 26 | 4 | 2,721 |
| T-88 Hendricks-T, 34, 26 | 7 | 845 |
| T-88 Hendricks-U, 41, 26 | 10 | 950 |
| T-88 Hendricks-V, 29, 26 | 1 | 72 |
| T-88 Hendricks-W, 5, B-12 | 1 | 170 |
| T-88 Hendricks-CX, 21, 26 | 4 | 887 |
| T-89 Hendricks-A, 45, B-5 | 3 | 217 |
| T-89 Hendricks-B, 35, B-5 | 2 | 315 |
| T-89 Hendricks-C, 35, B-5 | 3 | 511 |
| T-89 Hendricks-D, 35, B-5 | 1 | 144 |
| T-89 Hendricks-E, 40, B-5 | 3 | 53 |
| T-89 Hendricks-F, 40, B-5 | 2 | 204 |
| T-89 Hendricks-H, 46, 26 | 2 | 124 |
| T-89 Hendricks-I, 10, B-12 | 2 | 31 |
| T-89 Hendricks-J, 9, B-12 | 2 | 616 |
| T-89 Hendricks-L, 15, B-12 | 2 | 209 |
| T-90 Hutchings, 47, 26 | 2 | 332 |
| Texon Oil & Land Co.: | | |
| Hendricks-A, 41, B-5 | 6 | 124 |
| Hendricks-B, 45, 26 | 6 | 1,587 |
| Total Hendricks Pool | 576 | 86,238 |

#### LECK AREA

| | | |
|---|---|---|
| Atlantic-Kesslar & Logan: | | |
| Leck, 3, 74 | 2 | 68 |
| Amerada Pet. Corp.: | | |
| Leck, 3, 74 | 2 | 242 |
| Empire Gas & Fuel Co.: | | |
| Daugherty, 3, 74 | 3 | 70 |
| Magnolia Pet. Co.: | | |
| Scarborough, 1, C-22 | 2 | 150 |
| Gulf Prod. Co.: | | |
| Scarborough, 1, C-22 | 1 | 52 |
| Daugherty, 3, 74 | 1 | 430 |
| Shell-Llano Oil Co.: | | |
| Daugherty, 1, C-22 | 5 | 269 |
| Shell-Daneiger: | | |
| Daugherty, 3, 74 | 2 | 55 |
| Skelly Oil Co.: | | |
| Daugherty, 22, 16 | 4 | 1,003 |
| Tidal Oil Co.: | | |
| Scarborough, 1, C-22 | 1 | 80 |
| Prairie Oil & Gas Co.: | | |
| Leck, 16, 74 | 1 | 323 |
| Daugherty, 3, 74 | 1 | 89 |
| Scarborough, 1, C-22 | 1 | 57 |
| Warner-Quinlan: | | |
| Leck, 3, 74 | 1 | 380 |
| Total Leck Pool | 27 | 3,268 |

#### O'BRIEN POOL

| | | |
|---|---|---|
| Continental Oil Co.: | | |
| Morton-A, 10, B-12 | 1 | 25 |
| Morton-B, 10, B-12 | 2 | 68 |
| Wentz Oil Corp.: | | |
| Morton, 10, B-12 | 1 | 66 |
| Simms Oil Co.: | | |
| Sealy, 50, F | 1 | 15 |
| Richardson et al: | | |
| Stockton, 50, F | 1 | 81 |
| Total O'Brien Pool | 6 | 255 |
| Grand total Winkler County | 609 | 89,761 |

#### PECOS COUNTY

**Week Ending February 4**

| Company, lease— | Wells | Prod. |
|---|---|---|
| Arkansas Gas & Fuel: | | |
| University | 1 | 251 |
| M. H. Black: | | |
| Fee | 1 | 10 |
| California Co.: | | |
| Yates—Lease 1 | 19 | 9,718 |
| Smith—Lease 1, Sec. 37 | 5 | 561 |
| Smith—Lease 1, Sec. 23 | 8 | 2,601 |
| Smith—Lease 1, Sec. 21 | 5 | 920 |
| Smith—Lease 2 | 3 | 108 |
| Smith—Lease 3, Sec. 26 | 13 | 2,336 |
| Smith, Sec. 16 | 2 | 16 |
| Tippett—Lease 1 | 1 | 30 |
| University | 1 | 43 |
| Cardinal Oil Co.: | | |
| Torborg | 2 | 357 |
| Continental Oil Co.: | | |
| Yates-A | 4 | 525 |
| Salvage | | 3,527 |
| University-A | 4 | 153 |
| Cosby Drilling Co.: | | |
| Smith | 2 | 260 |
| Cranfill & Reynolds: | | |
| Masterson | 1 | 27 |
| Dorn & McGee: | | |
| Pecos Valley | 1 | 20 |
| Grayburg Oil Co.: | | |
| Pecos River Bed | 6 | 298 |
| Salvage | | 168 |
| Gulf Prod. Co.: | | |
| All leases | 44 | 17,691 |
| Henshaw Oil Corp.: | | |
| University | 1 | 41 |
| Humble Oil & Ref. Co.: | | |
| Smith-A | 12 | 2,367 |
| Smith-B | 7 | 1,097 |
| Kirby Pet. Co.: | | |
| Tippett | 2 | 50 |
| Kirby Pet. and Edson: | | |
| Tippett | 1 | 203 |
| McCarty Oil Co.: | | |
| Gray | 1 | 8 |
| Bennett | 1 | 8 |
| McMan Oil & Gas Co.: | | |
| Smith-A | 1 | 1,780 |
| Smith-B | 4 | 1,472 |
| Smith-C | 9 | 919 |
| Tippett | 3 | 286 |
| Richardson | 2 | 122 |
| McMan & Continental: | | |
| Yates | 17 | 6,376 |
| Mid-Kansas and Transcontinental: | | |
| Yates-A | 28 | 21,031 |
| Yates-B | 27 | 7,187 |
| Salvage | | 166 |
| Yates-C | 11 | 8,406 |
| Salvage | | 161 |
| Yates-D | 7 | 8,244 |
| Yates-E | 3 | 916 |
| Yates-F | 4 | 849 |
| Yates-G | 3 | 1,295 |
| Yates-H | 10 | 8,791 |
| Smith | 6 | 2,799 |
| Smith-Taylor | 19 | 4,565 |
| Landreth Prod. Co.: | | |
| University-A | 5 | 2,533 |
| University-C | 3 | 730 |
| University-D | 3 | 186 |
| University-E | 1 | 169 |
| University-F | 2 | 71 |
| University-G | 3 | 134 |
| University-H | 1 | 13 |
| University-I | 1 | .... |
| Landreth and World: | | |
| University-B | 6 | 1,650 |
| J. D. O'Mara: | | |
| Butz | 1 | 17 |
| Pecos Valley Oil: | | |
| Fee, Sec. 22, Block 26 | 3 | 49 |
| Phillips Pet. Corp.: | | |
| Monroe | 2 | 142 |
| Ramsey | 4 | 1,469 |
| Smith | 3 | 602 |
| Plymouth Pet. Corp.: | | |
| Terry | 1 | 28 |
| Red Bank Oil Co.: | | |
| Smith | 5 | 461 |
| Savoy & Mazda: | | |
| Smith | 3 | 647 |
| Shell Pet. Corp.: | | |
| Tippett | 11 | 2,825 |
| Smith-A | 11 | 1,346 |
| Smith-B | 1 | 501 |
| Smith-D | 4 | 829 |
| Smith-E | 1 | 28 |
| University-Bower-C | 4 | 502 |
| Simms Oil Co.: | | |
| Smith | 7 | 6,933 |
| Skelly Oil Co.: | | |
| Tippett | 2 | 147 |
| Taylor Link Oil Co.: | | |
| University | 11 | 997 |
| Transcontinental Oil Co.: | | |
| Matthews | 1 | 147 |
| World Oil Co.: | | |
| University | 1 | 15 |
| Total Pecos Field | 194 | 111,930 |

#### PIPE LINE RUNS

**January 23 to January 29**

**RUNS THROUGH TRUNK LINES**

| | Last period | |
|---|---|---|
| Atlantic P. L. Co., Port Arthur | 27,009 | |
| Gulf P. L. Co. to coast via Ranger | 37,852 | |
| Humble P. L. Co., Comyn, Tex. | 39,037 | |
| Humble P. L. Co., Ingleside | 23,991 | |
| Illinois P. L. Co., Del Rio, Tex. | 41,581 | |
| Magnolia P. L. Co., De Leon, Tex. | 19,264 | |
| Pasotex P. L. Co., El Paso, Tex. | 8,825 | |
| Shell P. L. Co. to Healdton, Okla. | 37,265 | |
| Shell P. L. Co. to Houston, Tex. | 21,141 | |
| The Texas Company, Houston, Tex. | 20,212 | |
| Total | 276,168 | |

**TANK CAR SHIPMENT**

| | | |
|---|---|---|
| Landreth Prod. Corp., Crossett | 205 | |
| Reagan County Pur. Co., McCamey | .... | |
| Thomas & Brann, Grant City | 100 | |
| Orient Co., McCamey | 75 | |
| American Pet. Co., Pyote | .... | |
| Southern Crude O. P. Co., Wickett | 13,224 | |
| Total | 13,604 | |

**RUNS TO WEST TEXAS REFINERIES**

| | | |
|---|---|---|
| Bluebonnett Ref. Co., Wickett | 3,022 | |
| Burford Ref. Co., Pecos | 5,026 | |
| Col.-Tex. Ref. Co., Colorado | 7,000 | |
| Cosden Ref. Co., Big Spring | 6,482 | |
| Great Western Ref. Co., Big Spring | 3,639 | |
| Humble Oil & Ref. Co., McCamey | 9,041 | |
| Mid.-Tex. Ref. Co., Midland | 778 | |
| Tonkawa Ref. Co., Pyote | .... | |
| Big Spring Ref. Co., Big Spring | 1,935 | |
| Richardson Ref. Co., Big Spring | 4,211 | |
| Wickett Ref. Co., Pyote, Tex. | 150 | |
| Total | 41,284 | |

**SUMMARY**

| | Last period | This period |
|---|---|---|
| Pipe line runs through trunk lines | 242,667 | 276,168 |
| Tank car shipments | 15,189 | 13,604 |
| Runs to West Texas refineries | 32,743 | 41,284 |
| Total daily distribution | 290,599 | 331,056 |
| Total daily production | 335,622 | 340,530 |
| Daily average from storage | 45,023 | 9,474 |

## PANHANDLE FIELDS

(Continued from Page 68)

20 bbls. oil and 2 bbls. water at 996-1,011 feet.

### Eastland County

Stalker Oil Co.'s No. 2 Holcomb was dry and abandoned at 1,607 feet.

### Erath County

Haynes and others' No. 1 Meyers was dry and abandoned at 3,518 feet.

### Palo Pinto County

Gordon-Gholson's No. 1 Taylor was dry and abandoned at 4,800 feet.

### Stephens County

Byers Oil & Gas Co.'s No. 1 Suddeth was dry and abandoned at 2,100 feet.

### Shackelford County

Grisham-Hunter's No. 6 Davis had an initial production of 10 bbls. at 1,635-42 feet. Midwest Exploration Co.'s No. 6 Dyer had an initial production of 14 bbls. at 896-903 feet. S. B. Owens' No. 3 Morris & Buie was dry and abandoned at 1,710 feet. Ritterbush's No. 2 Nail was dry and abandoned at 1,250 feet.

#### PANHANDLE COMPLETIONS

**Week ending February 8**

### Carson County

McMan Oil & Gas Co.'s No. 1 McConnell, located Section 187, Block 3, I.&G.N.R.R. Survey, had an initial production of 125 bbls. at 3,254-69 feet. The Texas Company's No. 3 Noel, located in Section 187, Block 3, I.&G.N. Survey, had an initial production of 267 bbls. at 3,182-93 feet. The Texas Company's No. 3 Quinn, located in Section 7, Block 9, I.&G.N.R.R. Survey, had an initial production of 170 bbls. after having been shot with 180 quarts at 3,015-91 feet.

### Gray County

Lefors Petroleum Co.'s No. 4 Shaw was temporarily abandoned at a total depth of 2,410 feet. Shamrock Oil & Gas Co.'s No. 3 Lincoln-Saunders had an initial production of 75 bbls. at 2,508-28 feet. Dillard and others' No. 1 Furneaux was drilled to a total depth of 3,475 feet, was plugged back to 3,215 feet, and had an initial production of 60 bbls. at 3,070-75 feet and at 3,175-80 feet. Guernsey Oil Co.'s No. 1 Vaniman, located in Section 175, Block 3, I.&G.N. Survey, had an initial production of 60 bbls. at 3,165-70 feet and at 3,195-3,200 feet and was drilled to a total depth of 3,291 feet. Magnolia Petroleum Corp.'s

No. 3 Wright, located in Section 13, Block 3, I.&G.N.R.R. Survey, had an initial production of 7,000 bbls. the first 24 hours and 500,000 feet of gas at a granite wash encountered at 2,838-50 feet. Operators Oil Co.'s No. 3 Bowers had an initial production of 5,000,000 feet of gas at 2,630-2,718 feet and was drilled to a total depth of 2,819 feet.

**Hutchinson County**

Smith & McDaniel's No. 1 Pitcher, located Section 19, Block M-21, T.C.R.R. Survey, had an initial production of 240 bbls. after having been shot with 270 quarts at 3,119-77 feet.

**Wheeler County**

Upham Gas Co.'s No. 1 Tinsley, located Section 66, Block 17, H.&G.N. Survey, had an initial production of 8,000,000 feet of gas at 1,895-1,904 feet.

## UNIQUE FEATURES IN NEW TYPE STILL

(Continued from Page 48)

shown here as No. 1 tower. Here it absorbs additional heat and the temperature is raised to approximately 375° F. before it enters the pipe still.

**Pipe Still**

Here the crude stream is split and each passes through an independent series of tubes in the still. The streams are recombined and enter the topping tower at about 550° F. This tower is 9 feet in diameter and 55 feet high and contains 16 trays of bubble caps. Midway up the tower a kerosene distillate cut is taken off and stripped in a 3 by 20-foot tower containing seven bubble cap trays. Open steam is injected into the tower to control the flash, the lighter fractions reentering the large tower at a point above the draw-off. A kerosene reflux may also be pumped to this tray for exacting control. As was stated previously, approximately 36 per cent of the crude is taken off overhead at this point. This includes approximately 30 per cent 400 endpoint gasoline taken off the top of the large tower and 6 per cent kerosene taken off the kerosene stripping tower. The balance of the crude passes down through a 3-foot 10-inch by 24-foot stripping tower and then re-enters the pipe still.

This time the stream passes through the wall tubes and roof tubes where the stripped crude is heated to 810° F. It then enters the 10 by 30-foot evaporator. A 2-foot layer of small Raschig rings near the top of the evaporator eliminates the entrainment of heavy liquids into the next fractionating tower. Off the bottom of the evaporator a 13 gravity flux oil or asphalt base material is taken, representing approximately 20 per cent of the crude. This material is charged direct to the asphalt plant at approximately 760° F. temperature.

**Wax Distillate Tower**

The overhead from the evaporator goes to the wax distillate tower where a heavy wax distillate cut is taken off the bottom and a light wax distillate or gas oil stream taken off as a side cut. This tower is 7 by 45 feet and contains 15 bubble cap trays. The overhead enters another tower of the same size and design, from which a light wax distillate is withdrawn from the bottom and a side stream of gas oil.

The overhead from this tower is 56 gravity 400 endpoint gasoline which is later blended with the gasoline recovered earlier in the processing. All of the towers are equipped with liquid level controls and are supplied from individual reflux systems, so the control of the unit is made unusually simple.

## DEATH OF W. R. CAPRON

William R. Capron, age 44, assistant to the president of the Sinclair Crude Oil Purchasing Co., died in Tulsa Saturday, February 8, after a two weeks' illness. Mr. Capron was with the Sun Oil Co. and later the Gypsy Oil Co. before joining the Sinclair organization. He was a World War veteran. Surviving him are Mrs. Capron and two small sons and his parents, Mr. and Mrs. J. C. Capron, of Griffin, Ark. The funeral was held on Monday in Tulsa.

# UNIT OPERATION IN VAN POOL ENDANGERED BY TWO SMALL TRACTS

By L. E. Bredberg
*Fort Worth Bureau, The Oil and Gas Journal*

FORT WORTH, Tex., Feb. 10.—The Van Pool, Van Zandt County, discovered by the Pure Oil Co. October 14, 1929, now appears as one of the best pools ever opened in Texas, although at present there are only eight wells producing and three more drilling. This small number of wells is due to the unit plan being used to keep down an unlimited amount of drilling and to prevent waste of oil and gas by overproduction. This plan may be somewhat demoralized if a drilling permit is allowed Hill and Hill of Fort Worth by the Railroad Commission on an excess tract in Section 3, Nacogdoches County School Land Survey, just east of Pure Oil Co.'s No. 1 Crim in Section 4. The small tract lies half way between the original four producers and Pure Oil Co.'s No. 1 Magers, which proved up the acreage for over a mile to the north, and this excess tract is practically sure of production, consequently if the well is drilled it will command about five offsets on Pure Oil Co. holdings.

A 10-inch line, belonging to the Pure Pipe Line Co. and running to a loading rack at Chandler is the only means of transporting the production of the field at present, and all wells are choked in to a total daily average of around 8,150 bbls. to hold down production. If the well is drilled on the excess strip, and necessary offsets drilled, it is impossible to say just what will happen in the way of overthrowing the present conservation regime, and how the added production will be marketed.

**Tract May Give Trouble**

Another small tract, within the Pure Oil Co.'s original 17,000-acre block, which might give some trouble to the working plan of unitization in the pool, is owned by the Hart Oil Co., and a location has been made by the company, 102 feet from the north line and 209 feet from the west line of the 2.3-acre tract in the John Walling Survey, about 1½ miles northeast of the discovery well. Whether this tract is outside of the Woodbine sand producing area cannot be said until a test is made. If the test proves a dry hloe it may eliminate possible controversies, but if proved a producer offsets will have to be drilled by the Pure Oil Co. and Humble Oil & Refining Co., and this production will cause increased transportation and marketing worries for those interested in the pool.

Pure Oil Co.'s No. 1 Magers, 250 feet from the east and 665 feet from the south lines of the A. F. Magers' 72.5-acre tract in the Nacogdoches County School Lands Survey, over a mile north of the discovery well, extended production farther than any well yet drilled in the field, and proved up the intervening acreage between it and the first four producers, although for some time it was considered by many to be a dry hole for it was running over 400 feet lower than Shell Petroleum Corp.'s No. 2 Tunnell, one of the four original wells in the pool. Production of this new well is rated at 45 bbls. per hour through a 1-inch choke at a total depth of 2,863 feet, 150 feet deeper than the discovery well. Top of the pay of the Magers well is 2,838 feet.

**New Producer**

Another new producer of the pool, brought in this week, is Pure-Texas Company's No. 1-A Tunnell, 640 feet from the north and 105 feet from the west line of a 6-acre tract in the John Walling Survey, southeast of the discovery well. This well topped the sand at 2,751 feet and was completed at 2,771 feet, only 20 feet in the sand. The initial production of this well was given as 343 bbls. in 24 hours on a 1-inch choke.

Pure-Shell Petroleum Corp.'s No. 1-A Fowler, located 250 feet from the north and 470 feet from the west line of the Fowler 34.6-acre tract, SE of the discovery well, is the best well in the field. It was completed this week for an initial production of 1,714 bbls. in 24 hours on a one-half-inch choke at a total depth of 2,696 feet, after topping the sand at 2,495 feet and showing a sand formation of approximately 200 feet in this field, with an unknown amount below the present total depth of this new well.

**Drilling Operations**

Pure Oil Co.'s No. 1 Crim, northwest of the discovery well, topped the Pecan Gap chalk at 1,745 feet, about 50 feet lower than the Magers well to the northeast, and is drilling at 1,900 feet in chalk.

Pure-Texas Company's No. 1-A White in the M. Gross Survey, northeast of the discovery well, is drilling at 2,468 feet in sand and shale, showing a slight saturation.

Pure-Sun Oil Co.'s No. 1-A Thompson in the John Walling Survey cemented 7-inch casing at 2,461 feet. Total depth is 2,491 feet. Top of the Woodbine sand was found at 2,431 feet. Elevation is 505 feet. Saturated oil sand was cored from 2,476-91 feet.

Shaw Oil Corp.'s No. 1 Huddle, 150 feet from the north and east of the Huddle tract in the Richardson Survey, SW of the Van Pool, is running very low on the Pecan Gap chalk, which was topped at 2,592 feet. It is now shut down at 3,007 feet.

Central Oil Co.'s No. 1 West, in the Ben Wheeler district, is drilling at 2,715 feet in shale. Elevation of this test is 564 feet. No chalk has been recorded. Dennis Oil Co.'s No. 1 Swain, in the John Walling Survey, is moving in a rotary. Moore & Reed's No. 1 Robinson, 4½ miles east of Grand Saline in the Y'Barbo Survey, is shut down at 1,260 feet.

R. C. McElmurry's No. 1 Peel, in the S. T. Meeks Survey, 8 miles southeast of Canton, is shut down at 1,100 feet. Hart Oil Co.'s No. 1 Swain, 102 feet from the north and 209 feet from the west of 2.3-acre tract in the John Walling Survey, is a location. Thornton and Taubert's No. 1 Everett, 4½ miles southeast of Canton, is drilling 2,370 feet in broken shale and lime shells.

W. B. Powell and others' No. 1 Bailey, 6 miles southwest of Van, is to start drilling at once. It was spudded and shut down for clearing of titles, but is now ready to resume operations. Van Zandt Oil & Development Co.'s No. 1 Robinson, east of Grand Saline, is shut down at 1,260 feet. All of the above tests are in Van Zandt County.

**Smith County**

East Texas Oil Corp.'s No. 1 Kadane, in the McFadden Survey in Smith County, is shut down at 2,080 feet in hard shale. R. H. Davis' No. 1 Starnes, 3½ miles northeast of Starville in Smith County, is shut down at 978 feet.

Production in the Van Pool for the past 24 hours, ending 7 a.m. February 10, is as follows: No. 1 Marman, 516 bbls. on 2 3/64-inch choke. No. 1 Thompson, 1,310 bbls. on one-half-inch choke. No. 1 Tunnell, 1,463 bbls. on one-half-inch choke. No. 2 Tunnell, 1,395 bbls. on one-half-inch choke. No. 1-A Tunnell, 343 bbls. on one-half-inch choke. No. 1 Wells, 804 bbls. on one-half-inch choke. No. 1 Fowler, 1,392 bbls. on one-half-inch choke. No. 1 Magers, 893 bbls. on two 1-inch chokes.

**Boggy Creek**

At Boggy Creek, Anderson County, Humble Oil & Refining Co.'s No. 1 Gammill, a semiwildcat on the south side of the dome, is drilling shale at 3,910 feet. No. 1 Cook, also a semiwildcat, A. B. Parton Survey, is drilling chalk at 3,085 feet. No. 1 Dan Stevenson, M. Roberts Survey, has started drilling cementing surface casing at 220 feet. This test is north and east of production on the southeast flank and is some distance up on the dome. No. 4-A Jones, D. Roberts Survey, is drilling at 1,207 feet. No. 5 Earle and Ragsdal (Cherokee County), N. Johnson Survey, is drilling chalk at 2,670 feet. No. 1 Johnson, James Hall Survey, is a derrick. Magnolia Petroleum Co.'s No. 2 Williams, William Beldsoe Survey, on the north side of Boggy Creek Dome, is drilling at 1,000 feet.

Roeser & Pendleton's No. 1 Moody, Walsh Survey, 7 miles east of Bethel, Anderson County, is fishing drill stem which twisted off while drilling in chalk at 3,335 feet.

On the Haynesville Dome, Woods County, Gulf Production Co. is rigged up and ready to start drilling in its No. 1 Caver. Magnolia Petroleum Co.'s No. 1 Duran-Reilly, A. Norris Survey, Rusk County, is setting casing at 340 feet. C. M. Joiner's No. 2 Bradford, same county, is drilling shale at 1,825 feet.

In the far southeast part of the division in Angelina County, J. M. Burnham's No. 1 Norton, W. I. Johnson Survey, is drilling sandy shale at 2,875 feet. C. F. Lytle's No. 1 fee, D. Avant Survey, Freestone County, is drilling shale at 2,076 feet.

Daily average production of the division for the week ending November 8 was:

**EAST CENTRAL TEXAS**

| | |
|---|---|
| Boggy Creek | 3,350 |
| Cedar Creek | 50 |
| Currie | 375 |
| Hill County | 90 |
| Mexia | 4,472 |
| Minerva | 570 |
| Nigger Creek | 235 |
| Powell | 6,365 |
| Richland | 275 |
| Thrall | 360 |
| Van | 5,743 |
| Wortham | 925 |
| Total East Central Texas | 22,810 |
| Week ending February 1 | 21,957 |
| Increase | 853 |

## AMPHIBIAN AIRPLANE TO SURVEY VENEZUELA

Creole Petroleum Corp., a subsidiary of the Standard Oil Co. of Venezuela, has purchased a Sikorsky amphibian plane for work in Venezuela. The plane, piloted by L. E. Shealey, and carrying as crew John Nelson, mechanic; Philip M. Houston, radio operator, and W. K. Wolford, Venezuela, has left Newark airport for Maturin, Venezuela, on an aerial mapping expedition.

One of the ship's first tasks will be a series of survey flights, recording observations from the air in map form with special aerial camera equipment. The plane will cut down the traveling time between the company's stations at Maturin and Maracaibo from a week or 10 days to about six hours.

Venezuela offers an interesting field for the use of aircraft in petroleum operations. Thousands of square miles have already been explored on foot for indications of oil deposits. The work has been necessarily slow and tedious, surveying parties frequently being compelled to ford swollen streams and cut through the thick undergrowth of tropical jungles, often to find nothing of geological interest that would aid in the discovery of oil.

With an aerial camera it is possible to survey hundreds of square miles in a single day, and by a study of the photographs to locate areas which, from a topographical standpoint, appear favorable for further investigation by geological and geophysical methods.

The ship will be fueled by the West Indies Oil Co., another subsidiary of the Standard Oil Co. of New Jersey. Stanavo aviation engine oil No. 120 is being exclusively used on the flight.

The Venezuelan trip is the outgrowth of several months of research work and test flights by Maj. E. E. Aldrin and Capt. R. E. Ellis of the Standard Oil Co. of New Jersey aviation department. For more than 18 months the company's air representatives have been engaged in assisting pilots and municipalities and encouraging the development of air travel.

This is the seventh plane to join the fleet of Standard Oil Co. of New Jersey subsidiary and affiliated units, the others being two Lockheed-Vega and a Curtiss Robin, hangared at the Newark airport, a Leoning amphibian and Buhl Airsedan operated out of New Orleans by the Standard Oil Co. of Louisiana, and a Hamilton seaplane owned by the Andian National Corp. at Cartagena, Colombia.

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# Central West Planning for Busy Year

## Greater Activity Promised in Old Lima Field. Gibson County, Indiana, Has Two Completions. One in Illinois

By Whit
*Staff Correspondent, Central West Fields*

FINDLAY, Ohio, Feb. 10.—Very little was done in any part of the Central West during the week, although all the fields had a few completions, mostly small oil or gas wells along with some dry holes. The winter so far has not been adapted to active development as the ground has been covered with snow and around zero weather for more than two months. Operators are taking things easy and will make up for lost time when weather conditions improve. February and March are usually bad months for field work in all parts of the Central West.

In the old Lima Field of northwestern Ohio a few completions were made during the past several days, but if reports prove true the year will experience greater activity than during 1929, as much leasing has been done outside the old defined area as well as in old territory that has been abandoned for years. In the earlier wells of the Trenton Rock area but few of the wells are drilled more than 50 feet in the Trenton, and the best pay sands later on showed larger wells at from 75 to 300 feet in the Trenton.

Northeast of Lima, in Bath Township, Allen County, H. F. Kelley and others' second test on the C. M. Daubler farm, on the oil map as the C. E. and A. H. Carroll farm, SE, Section 14, produced an initial of 15 bbls. at 47 feet in the sand at a total depth of 1,383 feet.

Another good producer has been found in the Tiffin Field by W. J. Poyser and others in No. 3 well, 300 feet from the south line and 800 feet from the west line of the Ida M. Rosenberger farm, on the oil map as the M. Sherrick, NW, Section 31, Pleasants Township, Seneca County, which produced 80 bbls. initial. Top of sand was found at 1,408 feet and drilled to a total depth of 1,500 feet. J. H. Murphy & Son's test, 350 feet from the north line and 800 feet from the west line of the C. J. Fry farm, NE. Section 6, same township, found top of Trenton at 1,494 feet and drilled 140 feet in to a total depth of 1,634 feet, showing 100,000 feet of gas.

T. F. Lewis and others' No. 3 well, 660 feet from the north line and 40 feet from the east line of the Carl Blossey, on the old oil map as the D. Nellis farm, NW, Section 19, Harris Township, Ottawa County, and near Elmore. Trenton was found at 1,272 feet and at 48 feet in the sand, the well pumped an initial of 6 bbls.

### CENTRAL OHIO

Central Ohio reported less completions than for any week for several months, and it will be quiet for a short period or until the latter part of February or forepart of March.

Ashland County failed to report any new wells and the only change was one well started drilling by the Ohio Fuel Gas Co. in No. 2-4,994 on the Alva Shriner farm, Section 1, Montgomery Township.

In Medina County, Hulse & Kundtz brought in a fairly good gas well in a second test on the Mary J. Young farm, Section 33, Lafayette Township. Ohio Fuel Gas Co. is starting No. 1-5,030 on the Sam Shelter farm, Section 22, same township.

In Lorain County, Ridgeville Township, Dampsey & McGrath are drilling on the Joseph Pitts, Lot 31, and the Ohio Fuel Gas Co. is drilling No. 1-4,979 on the Leo Thome farm, Sections 30 and 31, same township. Same company is drilling No. 1-4,996 on the J. T. Blue farm, Section 32, Congress Township, Wayne County.

In Holmes County, Richland Township, the East Ohio Gas Co. drilled in an above-the-average gas producer in a second test on the Alonzo Bucy farm, Section 15, from 3,420 to 3,441 feet. Ohio Fuel Gas Co.'s No. 2-3,039, on the J. A. Baker farm, Section 18, Prairie Township, same county, is showing some oil and may develop into a commercial producer. The Kemrow Co. is drilling on the Clara Weidler farm, Section 29, Butler Township, Richland County.

In Knox County, Brown Township, the Upham Gas Co. has a fair gas well in No. 2 on the E. Workman farm, Lot 37. Two pays were found in this well, the first from 2,718-34 feet and the second pay from 2,744-57 feet. Ohio Fuel Gas Co.'s No. 1-4,895 on the Herbert Frank farm, Section 12, same township, was dry, not finding a sand. Upham Gas Co. made a location for No. 3 on the George W. Criss farm, in Butler Township, same county.

Ohio Fuel Gas Co. made a location for No. 1-5,022 on the Grace McComfent farm, Section 16, Perry Township, Coshocton County.

### Summitt County

In Summitt County, Franklin Township, F. A. Brendall and others are drilling No. 2 Ed Dunn farm, Section 35, and No. 3 Charles Smith farm, Section 34. Same parties made location on the Margaret Silknetter, and No. 1 on the W. H. Humbert farm, both in Section 31, Greene Township, same county. East Ohio Gas Co. is drilling No. 1 Ada Lighton, Section 7, same township.

In Licking County, the Ohio Fuel Gas Co. made a location for a wildcat on the James A. Morgan farm, Sections 19 and 30, Hopewell Township. The Pure Oil Co. is drilling No. 6 on the John Hoover farm, Section 1, Perry Township. Hope Construction & Refining Co. made locations for No. 1 A. L. Wright farm, Section 14, and for No. 5 on the J. C. Wright, Section 15, Perry Township. Same company is drilling on the A. A. Stasel, Section 6. Hanover Township.

In Muskingum County, Hopewell Township, the Mid-East Gas Co. has a small gas producer in No. 3 on the George L. Porter farm, Lot 16, from 3,355-95 feet, total depth 3,410 feet. Wittmer Oil & Gas Co. is drilling on the Thomas B. Chaplin, in the fourth quarter, Washington Township, and the Ohio Fuel Gas Co. made a location for No. 1-5,016 on the Ralph M. Hanes farm, same quarter section. In Rich Hill Township, the Athey Co. has what is reported a 5-bbl. producer on the William T. Osborne, Section 7, at a reported depth of 4,450 feet. Clay Township, of this county, is getting a nice development, there being seven wells drilling and three new locations. Craig, Adair and others are drilling No. 1 on the Nesley Cox, Section 3. Noah Andrews and others are getting things ready for a second test on the State Brick Plant, same section, and John Wallsmith and others made a location for No. 1 E. H. Norman farm, same section. Abe Snider and others have a location on the Thomas Forgrave, Section 3. In Perry Township, the Wittmer properties, trustee, have what is reported a 30-bbl. initial producer in No. 1 on the I. B. Baker farm, Section 11, at a total depth of 4,218 feet. Ohio Fuel Gas Co. made a location for No. 1-5,017 on the Howard W. Urban farm, in the third quarter, same township. In Newton Township, Mealick & Ford have a fairly good gas well on the James Ford, Section 12, at from 3,500-65 feet, total depth, 3,585 feet. Fritz Oil & Gas Co. is drilling on the Harry T. Swingle farm, Section 28, Brush Creek Township.

In Athens County, Ames Township, the Ohio Fuel Gas Co. has an average gas well in No. 2-4,968 on the Thomas Fleming, Jr., farm, Section 5, in the lower Berea at from 1,506-19 feet, total depth 1,530 feet. Same company is drilling No. 1-4,922 on the Edgar C. Jones, Section 6, and made a location on the Nellie Ahle farm, same section. Same company is drilling No. 2-5,009 on the T. N. Hoover, Sections 1 and 2, Waterloo Township, and made a location on the O. O. Grimes, Section 34, Berne Township, same county. Same company is drilling No. 2-5,004 on the F. I. Caldwell farm, Sections 3 and 4, Carthage Township. Gross & Freebault are drilling on the Nellia H. Van Vorhes, Section 20, Athens Township. In Alexander Township, Townsend Oil & Gas Co. is drilling No. 7 Isaac Castle farm, Section 30, and Watson & Jones made a location on the William S. Van Vorhes, same section.

### Stark County

In Stark County, Lawrence Township, Johnson and others are drilling on the Lewis Sick farm, Section 2.

In Guernsey County, Jackson Township, the Cambridge Glass Co. has a duster on the Warner D. Hague, at a total depth of 1,344 feet, water being found in the Berea at 1,332 feet. The Kemrow Co. is drilling on the J. H. Fowler farm, Section 10, Wheeling Township.

In Harrison County, Rumley Township, Hendricks and Moore's No. 4, on the J. F. Perry, Section 24, is a 2-bbl. initial pumper. W. C. McBride made a location on the Grant Hadsell, Section 1, Somerset Township, Belmont County.

In Morgan County the only completion reported was Van Fossen & Scott's No. 25 on the John Donahoo, Section 11, Union Township, being a light gas producer from 557-62 feet. Ohio Fuel Gas Co. is drilling No. 1-4,942 on the D. L. Olney, Lot 4, Marion Township, and the Kemrow Co. is drilling No. 4 L. A. Boyd, Lot 36, same township, also drilling No. 12 Edmund Parker, Lot 4. Bode and others are drilling No. 34 Hiram M. Coy, Lot 31, same township.

### INDIANA

Two completions were reported from southwestern Indiana, both being in Gibson County. They are the Indiana Oil & Gas Corp.'s test, 200 feet from the north line and 870 feet from the west line of the Ben Buck farm, SW, Section 10, Barton Township, which was dry at a depth of 1,034 feet. This well was formerly credited to the Texana Oil Co. Same company's No. 2 well, 600 feet from the north line and 450 feet from the west line of the Sam Mitchell farm, NW, Section 33, Center Township, was also dry at a total depth of 1,925 feet. No. 3, on the Mitchell farm, is drilling while the same company is drilling on the William Ireland farm, Section 32, Center Township. Same company is drilling on the L. W. Gudgell, Section 25, Columbia Township, same county. Shell Petroleum Corp. is reported drilling No. 3 on the Perry Colvin farm, Section 22, Washington Township, same county.

In Clay Township, Pike County, F. B. Hillis and others are drilling on the N. Robesheid farm, Section 31. Mahutska Oil Co. is drilling No. 2 Ford & Hill farm, same section, and Lee & Cox, trustees, are working at No. 2 on the Charles McAtee farm, Location 146, same township.

Monroe County is to get a pretty thorough testing on large block of acreage by the Ohio Oil Co. and the Petro-

(Continued on Page 101)

## MUHLENBERG GAS WELL SURPRISE TO OPERATORS IN KENTUCKY

By Whit
*Staff Correspondent, Kentucky-Tennessee*

OWENSBORO, Ky., Feb. 10.—The bringing in of a large gas well on the W. E. Drake estate, by the Benedum-Trees Co., approximately 10 miles south of Greenville, in Muhlenburg County, several miles from any known production and south of two pronounced fault disturbances, is a surprise to the oil and gas people, as nothing of the kind was expected. This is the second well to be drilled south of the fault disturbances, the other being an oil well drilled south of the Rough River fault, and about 4 miles southeast of Livermore in Ohio County.

Contractors, drillers and operators expect to go at a rapid clip when February 15 comes around and the 60 days shutdown agreement ends. Most of the field men have been kept busy looking after further development, making locations, moving in drilling rigs and getting things in shape. Operators in general over the Tri-County Field are well pleased over the fact that they have not been given a cut in crude prices during the past couple of months.

The Owensboro Messenger has this to say: "Western Kentucky grade of crude oil will get a raise in price before a cut," is the opinion of some of the leading operators and producers in local fields. These opinions are based upon several favorable factors. Complete harmony among operators to curtail production until such time as a better market would be reached in the refining end and to allow pipe line carriers as well as purchasing agents to reduce storage during the dull consuming period of finished by-products, thus keeping in line with national plans to hold production to a closer level with trade demands, is of chief concern. It is known that the oil produced over the western Kentucky region, while not the highest in gravity, contains a high percentage content of lubricating material almost equaling the Pennsylvania oils. It is pointed out that lubricants are the chief money makers for the refiners, gasoline being the least profitable of all the by-products and for some time past an overproduced commodity. The local oil men feel assured of a season that will hold greater promise of profit than ever in the history of the western area. With a possible raise in price during the spring, depending upon general conditions to be sure, indicated by the enlarged sales of motor cars over the nation and gradual betterment of business conditions generally, the horizon is sufficiently attractive to be cause for all operating interests to be stimulated and hopeful. The few completions reported during the past several days is taken to be a most favorable

(Continued on Page 105)

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# Fair Producers in Ohio Deep Sand

## Good Gasser in Mingo County, West Virginia. Greene County, Pennsylvania, Has More Work than Any Other County

By D. S. Wakenight
*Staff Correspondent, Eastern Fields*

PITTSBURGH, Pa., Feb. 10.—Several good wells were completed after a lull in which light pumpers were the best obtained in any section. It will require something out of the ordinary to pull the eastern fields out of the rut into which they have fallen. It has now been more than two years since a new pool was discovered in the eastern fields. The last was a pool in Buffalo Township, Butler County, Pennsylvania. For a very short time while at its best it produced 2,000 bbls. a day and is now down to about 100 bbls.

All of the best producers but one, a good gasser in West Virginia, are credited to the deep sand territory in southeast Ohio.

### SOUTHEAST OHIO

In the NE Section 3, Clay Township, Muskingum County, William Cline and others completed and shot in the Clinton sand a second test on the Robinson Ransbottom farm. It produced 155 bbls. the first 24 hours. In Section 4, Jackson Township, same county, the Pure Oil Co. completed and shot in the same formation No. 4 on the Lloyd McKee farm. It flowed 150 bbls. the first 24 hours.

In Hanover Township, Section 1, Licking County, the Pure Oil Co. completed and shot in the same formation No. 3 on the R. L. Shoemaker farm. It produced 40 bbls. the first 24 hours. In Section 24, Perry Township, same county, the Hope Construction & Refining Co. completed No. 3 on the L. C. Griffin farm. It is a fair gasser, showing a little oil.

In the SW Section 4, Harrison Township, Perry County, the Northern Development Co. and others completed a test on the S. W. Moore farm. It is a 5-bbl. pumper in the Clinton sand.

#### Drilled Deep Duster

In the NW Section 24, York Township, on the Ralph Cosgrove farm, Morgan County, the Ohio Fuel Gas Co. after drilling through the Clinton sand and finding nothing, decided to drill to and through the Medina sand. It drilled to the Medina and finding the formation barren, abandoned the well at a total depth of 4,090 feet.

In Section 15, Richland Township, Holmes County, the East Ohio Gas Co. completed in the Clinton sand a test on the Alonzo Bucy farm. It is a gasser good for 2,500,000 feet.

In Section 5, Pike Township, Perry County, Perry Sturm & Co. have a very light pumper on the J. B. Souls farm. In Clayton and Jackson Townships, the Wehrle Co. and J. Elder & Co. are drilling tests on the L. Wright and Frank Metzger farms. In Rush Creek Township, Fairfield County, Murl Myers and Joseph Crawford are drilling tests on the Williamson & Stuart lot and the Owen Smith farm.

In Section 33, Perry Township, Perry County, the Chartiers Oil Co. has started to drill No. 215 on the Hocking Valley Products Co.'s property. In Harrison Township, the Ohio Fuel Gas Co. is drilling on the Orley Moore farm. In Newton Township, the same company has a rig up on the Lloyd McCoy farm. In Clay district, Muskingum County, McClay Brothers & Co. are drilling on the Calhoun-Gordon farm. In Harrison Township, Perry County, the same company is due in the Clinton sand on the Faye Melick farm.

#### Tuscarawas County

In Section 1, Washington Township, Tuscarawas County, the Ohio Falls Oil & Gas Supply Co. has a 10-bbl. pumper in the Niagara lime on the O. A. Nullin farm. In Section 17, same county, the Gordon Oil Co.'s second test on the Thomas Shearls farm produced 30 bbls. the first 24 hours.

In Washington Township, Tuscarawas County, the Capitol Drilling Co. is down 3,550 feet on the C. H. and M. A. Faulson farm. In Section 29, Paint Township, Holmes County, the Ohio Fuel Gas Co.'s test on the Levi Yoder farm is a gasser. In Clarke Township, the Ohio Oil Co. is fishing at 3,000 feet on the O. B. Akins farm.

In the SW Section 18, Harrison Township, Perry County, the Ohio Fuel Gas Co. completed a second test on the F. C. Moore farm. It is a fair gasser in the Clinton sand. In the SW Section 35, North Township, Harrison County, the Ohio Oil Co. completed in the Berea grit No. 11 on the E. H. Kennedy farm. It is a 4-bbl. pumper.

In Clay Township, Muskingum County, the Wehrle Co. completed in the Clinton sand a test on the W. F. Arnold lot. It produced 20 bbls. the first 24 hours. On Alonzo Bucy farm, in Section 15, Richland Township, Holmes County, the East Ohio Gas Co. got a gasser good for 2,500,000 feet in the Clinton sand.

### WEST VIRGINIA

On Sugar Camp Run, Reedy district, Roane County, the Heck Oil Co. has completed in the Berea grit No. 5 on the W. H. Enoch heirs farm. It is 500 feet north of No. 4 on the same farm and showing for a 10-bbl. pumper. In Murphy district, Ritchie County, the Hope Construction & Refining Co. has completed a light gasser in the Big Injun sand on the Caroline Moats farm.

On Twelve Pole Creek, Harvey district, Mingo County, F. H. Yates has drilled a second test on the George Workman and W. R. Cowden farm into the Maxon sand. It is a gasser good for 8,000,000 feet, at a total depth of 975 feet. In the same district, the Red Jacket Oil & Gas Co. completed No. 11 on the Red Jacket Consolidated Coal & Coke Co.'s property. It is 1,000 feet west of the Red Jacket Oil & Gas Co.'s No. 9. It is a gasser in the same formation good for 1,500,000 feet.

In Mannington district, Marion County, the Carnegie Natural Gas Co.'s test on the B. F. Wells farm is a light gasser in the Fifth sand. In DeKalb district, Gilmer County, the Hope Construction & Refining Co. has a duster at No. 3 on the I. N. Hardman farm. In Williams district, Woods County, Ekas & Gordon have a duster at a second test on the Clara McDougal farm.

The United Fuel Gas Co. is drilling on the D. H. Harless farm. Fred Knapp and others are drilling on the A. T. Ferrell farm.

In Smithfield district, Roane County, the Hardly Able Oil & Gas Co. completed a test on the T. F. Nichols farm. It is a gasser in the Big Injun sand. In Sherman district, Calhoun County, the Southeastern Gas Co. has a gasser in the same formation on the Hannah A. Linger farm. In Lee district, F. F. McIntosh & Co. completed a Big Injun sand gasser on the John McCoy farm.

#### Gilmer and Wetzel Counties

In DeKalb district, Gilmer County, Alfred Ellis & Co. have a duster at a second test on the M. R. Ellis farm. In Clay district, Wetzel County, the Littleton Oil & Gas Co. has drilled deeper its test on the Warden-Cain farm. It is dry in the Fourth sand.

In Washington district, Calhoun County, Godfrey L. Cabot, Inc., has completed a test on the Thomas F. Smith heirs farm. It is a gasser in the Salt sand. In Troy district, Gilmer County, the Carnegie Natural Gas Co. has a gasser in the Big Injun sand at No. 1,456 on the J. C. and E. D. Young farm. In Grant district, Ritchie County, Swearingen & Co.'s second test on the Mary Martin heirs farm is a gasser in the Maxon sand. In Walker district, Wood County, Allman & Horner have a light pumper in the Maxon sand at a second test on the Thomas Reckard farm.

On Little Cove Creek, Troy district, Gilmer County, the Carnegie Natural Gas Co. completed a test on the John V. Young farm, dry in the Berea grit. In the same district, on Big Cove Creek, the same company completed No. 3 on the Clinton Burton farm. It is a gasser in the Big Injun sand, estimated to be good for 750,000 feet.

On Bucks Run of Sandy Creek, Ravenwood district, Jackson County, the South Penn Oil Co. completed No. 11 on the C. S. McCarty farm. It is showing some oil and may make a small pumper after shot. In Center district, Calhoun County, 700 feet east of W. H. Bickel's test on the A. E. Kinney farm on Big Root Creek, the Southeastern Gas Co. completed a duster in the Big Injun sand on the Martin Snyder farm.

#### Kanawha County

In Cabin Creek district, Kanawha County, the United Fuel Gas Co. completed No. 4,053 on the Sunday Creek Coal Co.'s property. It is a light gasser. In the same district and county, the Cannel Coal Co.'s second test on its own property is a gasser good for 700,000 feet.

In Washington district, Boone County, the Owens Bottle & Machine Co. completed No. 3 on the W. E. Hatfield farm. It is a fair gasser in the Big Injun sand. In the same district and county, the Pond Fork Oil & Gas Co. has a light gasser at No. 9 on the Cole-Crane farm. In Clay district, Monongalia County, on a branch of Days Run, the Carnegie Natural Gas Co. has a very light gasser in the Bayard sand at a second test on the R. S. McCord farm.

In Chapmanville district, Logan County, the Big Creek Gas Co. has a rig up for a test on the Lydia M. Bevins farm. In Grant district, Cabell County, the Hamilton Gas Co. has a rig up on the Lafayette Knight farm. In Washington district, Boone County, the Riverhead Gas Co. has made a location on the William R. Nelson farm.

On Walnut Fork of Clover Run, Smithfield district, Roane County, West Virginia, the Hardly Able Oil & Gas Co. completed in the Big Injun sand its test on the T. F. Nichols farm. It is a gasser good for 1,000,000 feet. In Reedy district, same county, the Hope Construction & Refining Co.'s test on the Bertha Dixon farm is a duster in the Berea grit.

#### Wirt County

In Reedy district, Wirt County, the Hope Construction & Refining Co. has a rig up on the Levander Vandal farm. In Geary district, Roane County, the South Penn Oil Co.'s No. 15 on the Katherine H. Nixon farm is a gasser in the Big Injun sand. In the same district, the Virginia Gasoline & Oil Co. and the Godfrey L. Cabot, Inc., have rigs up on the John Hunt and John Smith farms.

In Center district, Calhoun County, W. H. Bickel has a gasser in the Big Injun sand on the F. V. Johnson farm. In the same district, the Hope Natural Gas Co. is due in the sand on the Peter Johnson farm. W. H. Bickel and L. P. Bickel have rigs up for tests on the Jasper Elliott and Stump heirs' farms. In Lee district, Calhoun County, W. H. Bickel has a light gasser, showing a little oil, on the Ira Bryner farm. In Sheridan district, Charles Despard has a rig up on the James Kirby farm.

In Ravenwood district, Jackson County, the Capitol Oil Co. is due in the sand on the Arthur Gray farm. In the same district, the Field Gas Co. is drilling a second test on the Arthur Gray farm. In Grant district, Star and others have a rig up on the Harvey Star farm.

#### Calhoun County

On Yellow Creek, Sheridan district, Calhoun County, the Chemical Oil & Gas Co. completed in the salt sand a light gasser on the A. H. Fling farm, 1,000 feet west of the same company's test on the A. T. Yoak farm.

In Harrisville district, Ritchie County, the Hope Natural Gas Co.'s test on the Caroline Moats farm is a gasser in the Maxon sand. In Meade district, Tyler County, the American Oil Co.'s second test on the John McCoy farm is a light gasser. In Paw Paw district, Marion County, the Owens Bottle & Machine Co. has a gasser in the Gantz sand on the J. E. and A. Michael farm.

In Ten Mile district, Harrison County, J. W. Johnson and Moses have a gasser in the Stray sand at a second test on the A. W. Flannigan farm. In Ellsworth district, Tyler County, J. H. Pentz completed a gasser at No. 3 on the Timothy Smith farm. In the same district, the Oakland Oil & Gas Co. has a gasser in the Big Injun sand on the Stephen Watkins farm. In the same locality, the Warden Drilling Co. has started to drill on the F. M. Travis farm.

#### Lincoln and Cabell Counties

In Jefferson district, Lincoln County, the United Fuel Gas Co. has a gasser in the Berea grit at No. 3,908 on the A. I. Dotson farm. In Grant district, Cabell County, the same company's No. 3,940 on the J. K. Suiter farm is a gasser in the Big Injun sand.

In Scott district, Boone County, the Mountain State Fuel Co. has a gasser on the F. F. Prichard and C. Hill, Jr., farm. In Washington district, the Osborne Development Co.'s No. 3, on the C. S. Roberts farm, is a gasser in the Berea grit.

#### Starting New Work

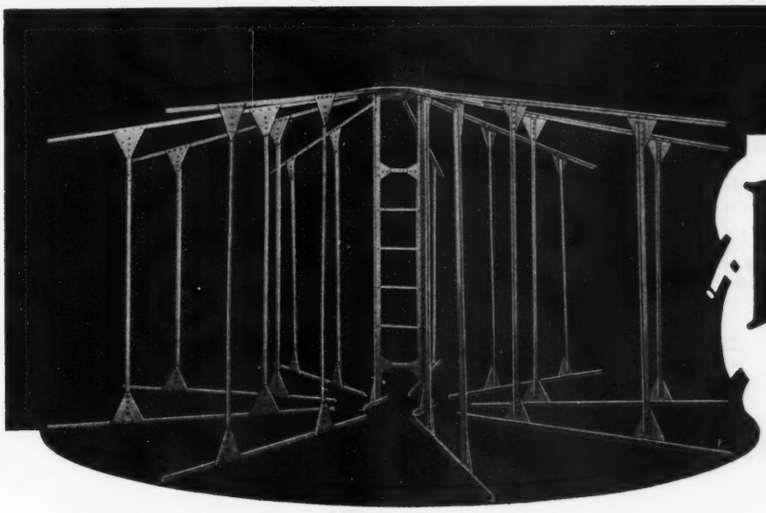
In McKim district, Pleasants County, S. Powell and others have a rig up on the George Reed farm. In Union district, Ritchie County, the Carnegie Natural Gas Co. has a rig up on the F. F. Prichard farm. In Grant district, Swearingen & Co. have shut down at their test on the Catherine Oldenwelder farm. In Williams district, Wood County, Beason & Athey have started to drill on the J. B. Henderson farm. In Clay district, Ritchie County, Hanaghan & Hanlon are drilling on the C. C. Weekley farm.

The Reno Oil Co. has shut down on the D. H. Tallman farm, in Ellsworth district, Tyler County. In Scott district, Boone County, the United Fuel Gas Co. has started to drill on the Julian Hill farm. In Washington district, the Owens Bottle & Machine Co. has made locations on the J. D. Powell and T. T. Ferrell farms. In McComas district, Cabell County, the Hamilton Gas Co. has a rig up on the H. K. Blodsoe farm. In Grant district, the Harshbarger Oil & Gas Co. has made a location on the German Chapman heirs' farm. In Union district, Lincoln County, the Russell Gas Co. and the Allegheny Gas Co. have made locations on the M. A. Stump and R. L. Stowers farm.

### SOUTHWEST PENNSYLVANIA

In Springhill Township, Greene Coun-

(Continued on Page 105)



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A skyscraper is built on the principles of a human skeleton. There are huge "spines," "ribs," "joints" and substructures to hold the building erect and in shape, and to furnish strength.

The B.S.&B. PERFECTION Vapor Pressure Tank is built like a skyscraper, and is based upon its principles of construction. It's more than a thin shell with one stave supporting the other—each tank is a specific structure and is supported at all points of strain by major braces, cross arms, etc.—*it is structurally correct.* Such points of strength include the angle iron tie rods, reinforced at top and bottom with gussets; the ladder itself, which also serves the same purpose; the bottom angle and top rafter irons; the flanged type staves that circle the tank horizontally, the pie-shaped segmental deck and bottom, and the heat treated bolts with the Chamfered head that stand over 100,000 lbs. tensile strength per square inch.

A tank designed to retain the light fractions of your crude must be built with an abundance of strength in mind to withstand the intensive pressure or vacuum. The B.S.&B. PERFECTION Vapor Pressure Tank protects your crude, preventing evaporation loss and maintaining well-head gravity. The B.S.&B. Safety Valve operates at 16 ounces pressure, (which is the ordinary maximum developed by sun rays on quiet crude), or 2 ounces vacuum. Thus the tank automatically protects itself against the unusual pressure (or vacuum).

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BARTLESVILLE - OKLAHOMA

Our Watchword QUICK SERVICE

*"The Dubbs cracking stills are the only units in the refinery that are making money"*

This was the report of a man recently put in charge of a bankrupt refinery by the receivers to get it back on a paying basis He made the report after studying the operations of all the refinery equipment carefully

Besides the Dubbs units, the

refinery had stills for crude oil distillation, and cracking equipment of another process than the Dubbs

It frequently happens in a refinery that the Dubbs units are the only pieces of equipment showing a profit

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

# Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

*In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.*

*Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.*

*In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.*

*In case an immediate answer is important, one will be given by mail if the writer requests it.*

### TRACING FLOW WITH DYE

**I have an oil well on a lease I got after the well had been drilled. It is 500 feet deep and has 380 feet of 6¼-inch casing and 500 feet of 4⅞-inch, which has a wall packer and perforated joint. This well will produce 20 bbls. of oil a day and 50 bbls. of water. I did not drill the well and cannot get any accurate information as to where the water is coming from. I do not know whether it is coming from above the sand and getting by the packer or whether the hole was drilled in the water. I have drilled some wells in this field, but not on this lease, and have had no bottom water trouble. I have had a lot of trouble, however, getting the top water shut off. This sand has been shot and if the water is bottom water I see no way to shut it off.**

**Is there any coloring matter or anything else I could put in between the 6¼-inch and the 4⅞-inch casing and then bail the water down and see if this marked water came through? Any suggestion you may be able to give will be appreciated.—R. W. M.**

Your plan of introducing coloring matter between the 6¼-inch and the 4⅞-inch casing above the packer to ascertain whether the water comes from above or below the packer is practicable. The dyes commonly used for tracing flow of underground waters are fluorescein, eosine, magenta or other fluorescent organic dyes.

Fluorescein has a distinctive yellowish-green color by reflected light and can be detected in water by the naked eye when present to the extent of 1 part in 40,000,000. It is not appreciably absorbed by clays and may travel for a considerable distance underground without changing its physical properties.

The dye should be dissolved in a bucket and either poured into the well or lowered in a glass container on the boiler or with a sand line and weight that will pass between the two strings of casing in your case, and the bottle broken when the bottom of the hole is reached.

The amount of dye necessary will depend upon the quantity of water the well makes and in your case it is suggested that 1 pound of fluorescein dye will be sufficient for a test. It will cost about $4.50 per pound.

A. W. Ambrose, in United States Bureau of Mines Bulletin No. 195, "Underground Conditions in Oil Fields," discusses the use of various detectors. Concerning fluorescein he says in part:

"Fluorescein ($C_{20}H_{12}O_5$) is a weak acid and represents the type of detector that can be easily recognized by its color (yellowish brown) when dissolved in large volumes of water. When present in dilute quantities in a solution of clear water it shows a magnificent yellowish-green fluorescence by reflected light which may appear colorless by transmitted light. This dye is almost colorless in dilute solutions containing free acid (except carbonic), hence the dye is more certain to be recognized if the solution is made slightly alkaline.

"Probably fluorescein is superior to all other dyes because it is noticeable when present in minute quantities and is not absorbed by clays. Fluorescein will penetrate an acid solution farther than eosine and give a color reaction that eosine may fail to give.

"It diffuses very rapidly and can be detected with the naked eye when present in the ratio of 1 part in 40,000,000. By means of the fluoroscope it can be detected in amounts varying from 1 part in 500,000,000 to 1 part in 10,000,000,000 of clear water, but the practical limit of the fluoroscope is 1 part in 2,000,000,000 provided the water is pure and perfectly clear. If the liquid is muddy, filtering before observation is necessary."

R. B. Dole prepared a paper for the United States Geological Survey on the use of fluorescein in study of underground waters, known as Water Supply Paper 160, and issued in 1906. A copy might be obtained from the Government Printing Office in Washington.

### PERIODIC OR CONTINUOUS

**When a siphon has been installed as a means of removing water from a gas well does the siphon operate all the time or only at intervals as desired?—N. A. N.**

A siphon may be operated either periodically, if the quantity of water in a well is small, or continuously, if a well is producing water in sufficient quantities to drown it out in a short time. Generally the volume of water produced with the gas is comparatively small during the early producing life of a field, and a periodically operated siphon installed in each well that produces water will be effective in removing the water which may accumulate in amounts large enough to cause an undesirable reduction of the well-head pressure.

When a gas field has been depleted until the volume of gas delivered from each well becomes small and the volume of water produced with the gas is increasing, all the gas produced from the well probably can be delivered through the siphon with the water. The water and gas then may be separated in a trap equipped with drip. This is one application of the continuous siphon. Siphons that operate continuously can also be used during the early life of the wells when production is at a maximum and well pressures are high. Continuous operation under those conditions permits the siphon to discharge the gas under pressure through a trap equipped with an automatic drip from which the gas passes to gathering lines and the water to collecting ponds.

### ABOUT THAT HURRY-UP STICK

The brief description of a hurry-up stick in the issue of January 9 contained the misleading statement that the implement was used "when the beam is in motion." Communications received as a result of the statement reveal that some oil-derrick terms do not seem to mean exactly the same thing in all fields. In this connection it is noted that different oil men do not agree in detail in their definitions of "hurry-up stick," "headache stick" and "knock stick." The last-named tool receives attention here this week.

The following interesting letter commenting on the definition of "hurry-up stick" was received from H. J. Winans of Bowling Green, Ky.:

"With reference to your article on the 'hurry-up stick' in the January 9 issue of The Oil and Gas Journal will say your informant was all wet. The stick you have reference to and the hurry-up stick are two separate equipments and I doubt if one-tenth of the toolies of today would know a hurry-up stick if they saw it hanging on the headache post.

"The stick you mentioned is more of a club and has no hole in the end to unscrew or set up T or yoke screw, and is used as you mentioned. The hurry-up stock is a stick some 8 or 10 feet long and is used by the tooldresser as follows:

"The screw is out, the tooldresser kicks on the inside rope, dives for the clamps, breaks them, dives for the other rope, backs it on, runs for the pitman, jerks it off while she is on the downstroke, dives for the hurry-up stick, loosens the T yoke screw, jumps back of the Sampson post and gives the weight a pull. Up goes the temper screw. He jumps in, grabs the hurry-up stick, runs the yoke screw up, steps to the link and telegraph cord and if the driller hasn't already done so, he proceeds to give her the rest of the steam, while the driller walks to the brake. Then they both take a chew of Mail Pouch.

"If a modern tooldresser should happen in a derrick today while this was going on he would run, thinking the well was on fire or the rig coming in."

#### WHY WAS IT CALLED THAT?

**KNOCK STICK**

This useful bit of drilling equipment which does not appear in the oil-field supply catalogs is a short club, commonly a piece of pick handle, used to knock the T screw on the yoke at the lower end of the temper screw while the walking beam is in motion. The purpose of the wallop is to tighten or loosen the yoke on the main screw.

### TEMPERATURE AND GRAVITY

**For what purpose are the temperature and gravity of oil taken at a pipe line pump station daily? I notice that this is being done at all stations.—T. L.**

The temperature and gravity of oil are recorded daily at pipe line stations to obtain as complete a record as possible of oil in transit for the purchasing and carrying companies. In order that the quantity of oil may be measured in a definite manner it is necessary that its temperature be ascertained at the same time the gravity reading is taken, for the gravity of the oil must be corrected to 60° F. as that is the standard established by the American Petroleum Institute and the Bureau of Standards for computations of this character.

As the pipe line is acting as a carrier of the crude and must account for all that is turned over to it for transportation, it is essential that the records be kept accurately. The quantity of oil actually in transit, or in the pipe lines, from day to day is very large and if it were not taken into the daily balance there would be a large discrepancy in the books of the pipe line company. So it becomes necessary to take accurate readings at fixed intervals and report them to the company headquarters.

### MECHANISM OF "DOODLEBUGS"

**Can you give me any references that describe the mechanism and operation of "doodlebugs"? By this I do not mean the forked twig method of locating water nor the operation of the torsion balance and magnetometer, which are sometimes called "doodlebugs," but the devices used in the attempt to locate oil.—F. R. N.**

It is difficult to give you any references that will assure you of detailed descriptions of the mechanism and operation of "doodlebugs" that lie between the primitive forked twig at one extreme and scientifically constructed geophysical instruments at the other. The reason is that the inventors of these devices, unpatented and usually unpatentable, are not disposed to take the public into their confidence. This is said without intention to imply anything either favorable or unfavorable concerning these devices. Obviously it is impossible to form an opinion regarding such an instrument without knowing the principles upon which it operates and without knowing its record in a long series of trials in the field.

It is suggested that you read "Geophysical Prospecting," by John H. Wilson, assistant professor of physics in the Colorado School of Mines, Golden, Colo., if you care for elementary information on the whole subject of geophysics. It may be obtained by addressing the publishers of the Colorado School of Mines Magazine. Among many valuable articles on this subject which have appeared in The Oil and Gas Journal those by L. Sparagen deserve special mention. General articles by him in the issues of September 27 and October 4, 1928, were followed by others dealing with specific phases of the subject.

### OIL COURSES AND BOOKS

**Would you please advise me of universities or colleges giving correspondence courses in petroleum engineering? Also I would appreciate very much a list of reliable text books on the subject of petroleum geology.—J. E. L.**

There are good correspondence courses in petroleum engineering. Names are being mailed to you. Among many excellent works on petroleum geology might name "Practical Oil Geology," by Dorsey Hager; "Field Methods in Petroleum Geology," by Cox, Drake and Muilenberg, and "Geologic Structures," by Bailey Willis and Robin Willis, all three published by the McGraw-Hill Book Co., New York, and "The Geology of Petroleum and Natural Gas," by Ernest Raymond Lilley, published by the D. Van Nostrand Co., New York. Mr. Hager's volume, though not as recently written as the others, remains a standard work for beginners. There are other books that might well be given a place in a list of this sort, but to name more probably would confuse rather than help you.

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In Rig Irons, as in automobiles, dependable performance and length of service are the factors which determine cost rather than price. Parkersburg A.P.I. Rig Irons are built on that sound basis with quality as the keynote of manufacture from selection of raw materials to completion of the assembled rig.

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Remember when you buy, select these familiar green Rig Irons with confidence, for back of this Parkersburg Products are thirty-three years of proven performance in the major oil fields of the world.

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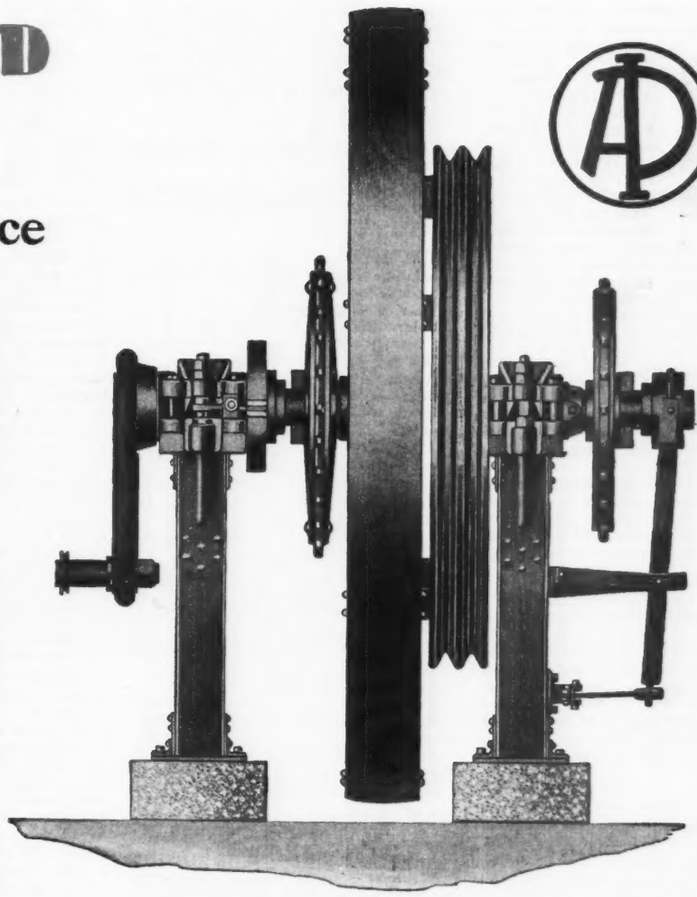

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New York, Tulsa, Fort Worth, Houston, Denver

# Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

*This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.*

*Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.*

*Question should be submitted in as much detail as possible so as to assure a satisfactory answer.*

*All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.*

*Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.*

## QUALITY CRANKCASE OIL BY HYDROMETER TEST

**Can you furnish any information indicating that the quality of crankcase oil may be determined by the use of a hydrometer? Is there a table published giving the specific gravity of new oil and indicating the point where oil ceases to be useful for use in automobile crankcases?—L. E.**

Dilution of crankcase oil depends on several factors, the most important of which include condition of the engine, quality of the fuel and lubricating oil, operation, local road conditions, and temperature. The diluting material is that portion of the gasoline which is represented by the heavier, or high-boiling, fractions. The larger part of this approximates in composition that distilling at the 85 per cent point.

The process of dilution has been well described by Bell, A.P.I., Volume 5, Page 115, 1924, which in substance is: The incoming charge of gasoline meets the film of lubricating oil on the cylinder walls and if the temperature is sufficiently low some of the less volatile portions of the gasoline go into solution. The rate at which the gasoline blends with the oil is largely determined by the volatility of the fuel and the temperature of the oil film, this rate being greater with the high endpoint gasolines and cold cylinder walls. Some of the diluting material will eventually reach the crankcase and in succeeding cycles some of this diluted oil will form the film on the cylinder walls. Excessive use of the choke is a large contributor to dilution.

The important consideration is that dilution greatly decreases the lubricating value of the oil because of the resulting thinning and lowering of the viscosity. The diluted oil readily passes the rings so there is increased oil consumption, formation of carbon deposits and fouling of sparkplugs. The low viscosity oil cannot maintain a protective film equal to that of a high viscosity oil so excessive wear results.

The dilution of crankcase oil during normal conditions ranges from 10 to 25 per cent but may be increased to 50 per cent during unfavorable temperatures.

Gravity might serve as a measure or indication of the extent of dilution if there were no other factors to influence density and every possible condition could be controlled. The gravity, viscosity and volatility of both fuel and lubricant vary so much that it would not be feasible to have the required data concerning these properties, not to consider others, available for interpreting density, or hydrometer readings, in terms of dilution.

## DARST CREEK CRUDE ANALYSIS

**Will you kindly give me an analysis of Darst Creek crude including the sulphur content?—J. A. R.**

The Darst Creek Pool is located in Guadalupe County, Texas. Two analyses are available.

Gravity—35.2 A.P.I.
Color—Black.
Viscosity—45/100.
B.s. and water—0.5 per cent.
Sulphur—0.59.
Odor—Hydrogen sulphide.

| Products— | Per cent | Gravity |
|---|---|---|
| Gasoline | 22.4 | 55.1 |
| I.B.P.—200. E.P.—400. | | |
| Kerosene | 12.6 | 44.5 |
| Closed flash—150. R.O.V.—445. | | |
| Gas oil | 45.0 | 35.6 |
| Closed flash—230. | | |
| Fuel oil | 18.0 | 19.1 |
| Open flash—525. Vis. Furol—396/122. | | |

The second analysis is:

Gravity—36.8 A.P.I.
B.s. and water—4.0 per cent.
Sulphur—1.4 per cent.

| Products— | Gravity | Per cent |
|---|---|---|
| Gasoline | 56/58 | 28.0 |
| Kerosene | 40/42 | 30.0 |
| Gas oil | 31/34 | 20.0 |
| Fuel oil | 18/20 | 21.0 |

## NATURAL GAS AND SWEATING WALLS

**We have recently started distributing natural gas here and now have numerous complaints about the sweating of walls involving the ruining of the paper on the walls and doing damage to the furniture. Inspections show that in some instances the walls are wet to the ceiling. Will you, if possible, give us a solution that will remedy this cause, also its origin?—A. M. P.**

The numerous fatalities involving gas burning appliances reported every winter may be classified under three classes: Direct asphyxiation, indirect asphyxiation, and poisoning. Direct asphyxiation is caused by escaping gas, indirect asphyxiation by carbon dioxide; and poisoning by the carbon monoxide formed by incomplete combustion. Most of these could have been prevented if adequate flues and proper ventilation had been provided. Excessive condensation of moisture on the walls is always an indication of the lack of sufficient flues or poor ventilation or both.

Complete combustion of natural gas means that carbon dioxide and water are produced. Carbon monoxide in the flue gas indicates that not enough oxygen is combining with the burning gas or there is a bad impingement of the flame. Each cubic foot of normal natural gas produces about 2 cubic feet of water vapor and when it is not removed from a room it is simply a question of time until the humidity reaches the saturation point with the consequent collection of moisture on the cool surfaces; such as walls and windows.

The American Gas Association has provided specifications for flue outlets on space heaters, which are—the size of the flue outlet shall be based on the B.t.u. rating supplied by the manufacturer and shall in no case be smaller than the 3-inch size. The following table shall apply:

| Manufacturers' B.t.u. hour rating— | Minimum internal tranvers area flue outlet sq in. | Minimum diameter flue pipe required inches |
|---|---|---|
| Up to 40,000 | 3.8 | 3 |
| 40,000- 70,000 | 7.2 | 4 |
| 70,000-110,000 | 11.5 | 5 |
| 110,000-160,000 | 16.9 | 6 |
| 160,000-250,000 | 23.2 | 7 |

There are two articles about the sweating of walls from burning gas, on the Natural Gas Development page of The Oil and Gas Journal, December 12, 1929, page 84, from which the following extracts are taken:

The principal causes of sweating we find to be due to poor flue conditions. Too small flue at heater to carry off products of combustion, is largely eliminated, as most reliable manufacturers are having all their heaters and appliances A.G.A. or C.G.A. tested. Too small flue from the heater to the chimney, or possibly long vent passing through cold room into cold chimney. This is sure to cause condensation. In these cases we found it necessary to enlarge the flue pipe from the heater to the chimney to 6 inches where 3 or 4-inch had been used. No open flame heater should be used without a vent. I would recommend the closest co-operating possible between the gas companies and the local plumbers and fitters, eliminating the possibility of heaters and appliances being set up without flue connections.

Through co-operation with builders and architects we could devise some means of utilizing the space between walls now going to waste by installing flue pipe of a suitable metal that would be of ample size to carry off the products of combustion from an open type heater and connect same in the attic to the chimney. With flues of this nature extending down to the baseboards we can accomplish two things: We could connect the heater with a vent pipe, doing away with the unsightly flue pipe that most ladies abhor in their living rooms and at the same time carry off the products of combustion giving us the most trouble with dampness.

## GASOLINE FROM NATURAL GAS

**Will you kindly give me information or reference if possible on the following subject: How to convert natural gas into gasoline? I am writing a paper on the subject and if I could get the formulae for converting natural gas into gasoline it would be very much appreciated.—M. C. A.**

Natural gas found in various parts of the world is not of the same composition but may contain from one to several hydrocarbons. These hydrocarbons are of the paraffin series and the percentages of each may vary to a considerable extent. The substances that are found in natural gas are methane, ethane, propane, butane, pentane, hexane and heptane. Occasionally some other substances are present. The hydrocarbons that may be extracted, and that will remain liquid under ordinary conditions of pressure and temperature, include the last four mentioned. If a natural gas does not contain these hydrocarbons it is not possible to make gasoline by commercial methods from it. Gasoline as such does not occur in any gas in paying quantities, and the product known as natural gasoline must be extracted and purified. The process of manufacture may vary according to the type of gas available and the character of the product to be made.

Natural gas is frequently classified as dry and wet. That is, it does not or does contain enough of the hydrocarbon butane, pentane, hexane and heptane to make possible the recovery of gasoline in paying quantities. A dry gas, for example, may contain less than one-fourth gallon of recoverable gasoline per 1,000 cubic feet, and a gas may be wet when it contains more than this quantity. However, the terms are relative in that volume must be considered. A very large volume of half gallon gas might be termed wet gas because it may be possible to manufacture a paying quantity of gasoline from it, but should a comparatively small volume be available, it would not pay to extract the gasoline and then the gas becomes a dry gas. Some operators consider that gas in the field should contain at least 1 gallon to the 1,000 cubic feet to make the extraction of the gasoline profitable.

There are three principal methods that are now used for making natural gasoline. These are compression, oil absorption and charcoal absorption. Details of these may be found in the references following:

Numerous bulletins, United States Bureau of Mines.
Files of The Oil and Gas Journal.
Recovery of Gasoline from Natural Gas, by Burrell.
Natural Gasoline, by Oberfell and Alden.

## TESTING MOTOR FUELS FOR KNOCK RATING

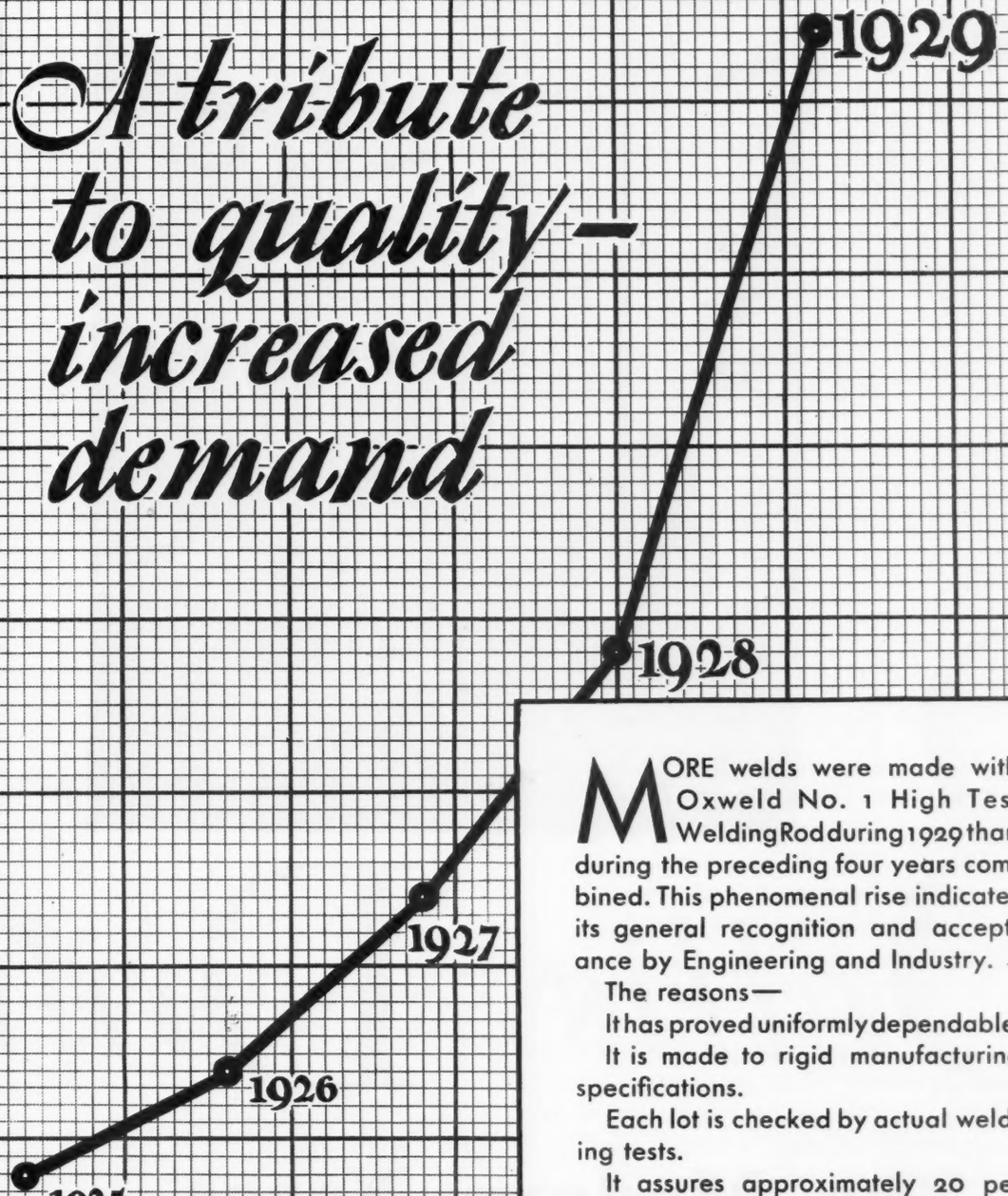
**What methods if any are there for testing motor fuels for benzol equivalent or antiknock value other than the motor method?—W. R.**

That the knocking of a motor is frequently a characteristic of the fuel is a discovery which has been credited to the automobile industry. Investigations have demonstrated that gasoline as prepared from different crude oils varied to a marked degree with respect to this knocking tendency. Midgley and Boyd of the General Motors Corp. have shown that fuel knock may be lessened by the addition to the gasoline of small quantities of certain chemicals, especially hydrocarbons of the aromatic group. Benzol, aniline, and xylidine being examples. Later studies produced tetraethyl lead, which is the most powerful knock inhibitor now used.

How to measure and rate this fuel knock is a problem that has not been solved to the satisfaction of all authorities. The suggestion was made that analytical methods would give the required information to enable us to rate gasoline as to knock tendency; possibly on the quantity of the aromatics present or some specific one, such as benzol or aniline. However, the procedure requires special skill and the time necessary for the determinations is too long to satisfy manufacturing conditions. Consequently chemical analysis cannot be recommended for determining the knock rating of motor fuels.

The test motor is quite generally approved for this purpose, but the method and statement of results have not been standardized. Probably the first suggestion was to determine the highest compression at which the fuel would not knock, and this would be known as the highest useful compression ratio, or H.U.C.R., which could be derived from the operation of an engine with an adjustable head. Several forms of this kind of motor have been designed and are in use. The simpler form is the one with a fixed head and the extent of the knock is measured or compared with a reference fuel of known value. A convenient means for expressing the results obtained by this method is that of benzol equivalent; meaning that the gasoline under test gives the same result as a straightrun gasoline to which a definite quantity of benzol has been added.

# A tribute to quality—increased demand




MORE welds were made with Oxweld No. 1 High Test Welding Rod during 1929 than during the preceding four years combined. This phenomenal rise indicates its general recognition and acceptance by Engineering and Industry.

The reasons—

It has proved uniformly dependable.

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Each lot is checked by actual welding tests.

It assures approximately 20 per cent. greater tensile strength than mild steel rod.

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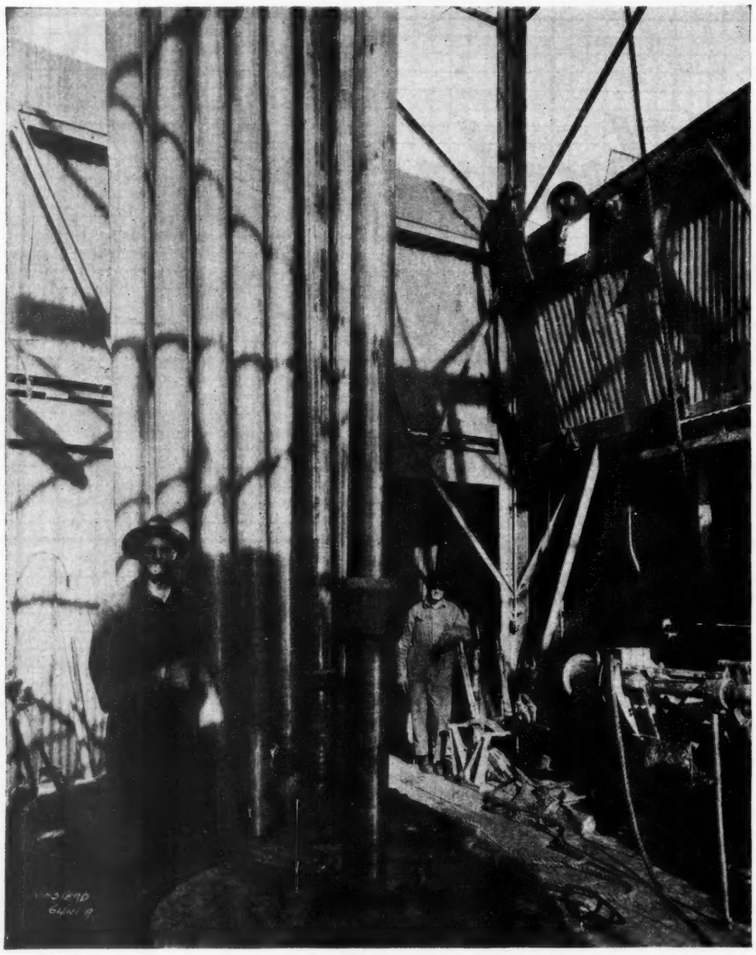

*View of Bettis Drill Stabilizer installed on a flush drill pipe used in a California field. The Stabilizers may be easily installed in the same manner as Bettis Protectors. Ask for descriptive folder.*

# Bettis Drill

## The Modern Necessity for Straight Hole Digging... Keeps the Drill in Alignment—

## Another Bettis Success

# PROPER PROTECTION IN OPEN HOLE

The principal contributing cause of crooked hole is the "play" in the drill stem and pipe in open formation. Installation of Bettis Drill Stabilizers results in alignment of the drilling string in open formation which prevents "whipping" above the drill and stops excessive wear on bottom collars. The Stabilizers are extra large in diameter to keep the string centered, but with sufficient clearance to allow free circulation of the mud. In case a fishing job should occur the Stabilizers keep the drill and pipe centered, making them easy to pick up.

The Stabilizers are spaced approximately 30 feet apart from the drill to the bottom of the casing and for complete protection Bettis Protectors should be used within the casing.

Bettis Protectors were truly the sensation of 1929. Bettis Drill Stabilizers are truly the sensation of 1930. With *strict economy* the keynote of 1930 drilling, Bettis Stabilizers meet the demand—assuring longer life to equipment.

# *Stabilizers*

SIZES FOR A.P.I. DRILL PIPE

| Rated Size | O. D. Drill Pipe | O. D. Expanded on Drill Pipe | Weight Lbs. | Code Name |
|---|---|---|---|---|
| 6"x16" | 6 5/8" | 16 1/8" | 57 | Aster |
| 6"x14" | 6 5/8" | 14" | 39 1/2 | Clover |
| 6"x12" | 6 5/8" | 12" | 30 | Daisy |
| 6"x10" | 6 5/8" | 10 3/4" | 18 | Fern |
| 5"x12" | 5 9/16" | 11 5/8" | 29 | Ivy |
| 5"x10" | 5 9/16" | 10 9/16" | 20 1/2 | Jasmine |
| 5"x9" | 5 9/16" | 9" | 14 | Lilac |
| 4"x9" | 4 1/2" | 9" | 15 1/2 | Moss |
| 4"x7" | 4 1/2" | 7" | 6 | Violet |

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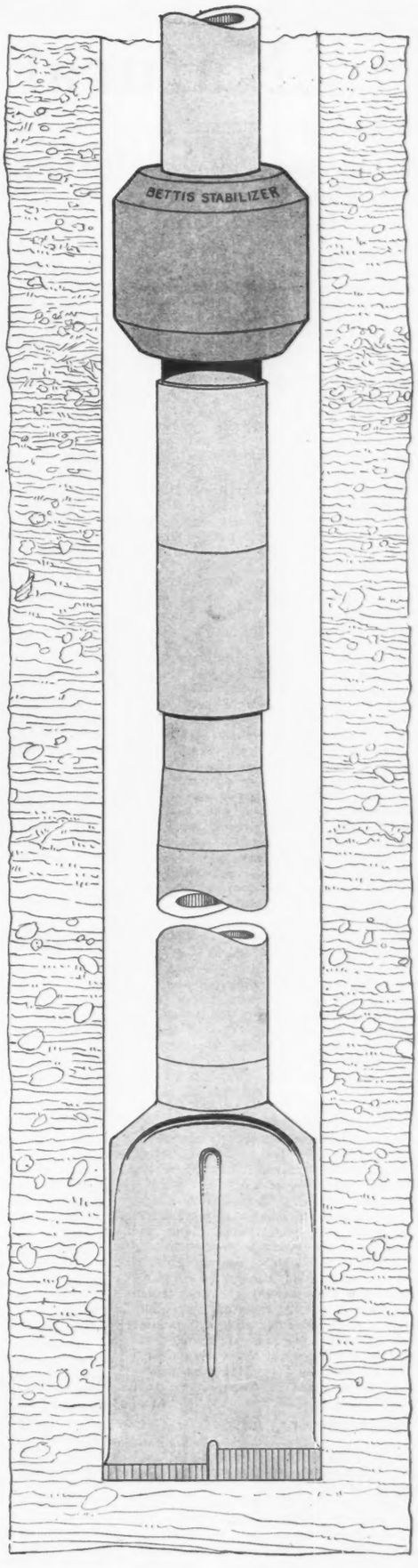


*FULLY PATENTED*

# Natural Gas Developments

## St. Lawrence Valley Drilling Campaign Is Being Planned

CHATHAM, Ontario, Feb. 8.—In the province of Quebec, some development work seems probable in the Portneuf district, near Quebec City along the north and south shores of the St. Lawrence between Quebec and Montreal. The early staking was done in the vicinity of reported oil and gas seepages along the main Montreal-Quebec trunk highway, more especially at Lanoraie, at Louiseville, close to Three Rivers, and in the vicinity of Batiscan, as well as closer to Quebec. A second rush resulted in the staking of large acreages on the south bank of the St. Lawrence.

The Portneuf area has a number of gas seepages and some traces of oil, together with geological conditions which render small oil and gas pools possible There is a considerable area of sedimentary deposition. The Louiseville area, north of the St. Lawrence, was tested to shallow depth as long ago as 1887. Three tests showed gas between, approximately, 210 and 295 feet, the gas being in small quantities. Further drilling was done in 1905, a number of shallow wells being put down in the vicinity of Louiseville. Yamachiche and St. Barnabe, of which 13 produced gas in small merchantable quantities between 225 and 300 feet, near the top of the solid rock, and was piped to the three villages, and later, in 1907, an 8-inch pipe line was laid to Three Rivers, despite warnings from Mr. Obalski, of the Quebec mines department that the field was not large enough. The demand proved too great and the field was exhausted before the end of 1907. The gas was apparently a drift gas, and the deeper possibilities of the area north of the river do not seem to have been really tested.

South of the St. Lawrence, deeper drilling has been carried on. In 1885 the Trudel well near St. Gregorie in Nicolet County was carried to 1,115 feet, encountering gas at five different horizons between 316 and 842 feet. Later tests, in 1895 close to Nicolet College and in 1904 near the old Trudel well, failed to get production. The Quebec Gas & Fuel Co. drilled four wells between 1908 and 1910. No. 1, Lot 566, Yamaska Parish, was abandoned at 3,060 feet in shales without reaching the limestone. No. 2, St. Roch Parish, Richelieu County, finished in limestone, apparently the Trenton, at 2,950 feet. No. 3, Lot 27, Grand Cote, Vercheres Parish, finished in the Trenton limestone at 2,450 feet with a little gas; and No. 4, Lot 202, Grand Cote, finished in the Trenton at 2,300 feet with some gas. Surface gas has been found for years in wells sunk in St. Hyacinthe County, and in 1910 a test in Lot 164, Range St. Amable north, St. Barnabe Parish, was drilled to 1,880 feet getting some gas in a shale horizon at 1,860 feet, with 275 pounds rock pressure. In 1914 a second well close to St. Barnabe No. 1 was drilled to 2,907 feet, and a third was drilled

(Continued on Page 151)

### SOUTHERN CALIFORNIA GAS

SAN FRANCISCO, Calif., Feb. 8.—The Southern California Gas Co., subsidiary of the Pacific Lighting Corp., reports net for the 12 months ended December 31, 1929, of $2,941,667, after taxes, interest, depreciation and amortization. This compares with $2,869,973 earned in the previous year. According to the statement, the company had surplus at the end of 1929 of $4,372,375, against $4,284,712 at the close of the previous year.

## DEGREE DAY DEFICIENCY CHART GIVES RATIO OF HEATING GAS USED

By A. C. Howard
Vice President, United Gas Engineering Corp. (United Gas Co.)

In the more northern parts of our country, and those sections where natural gas is not available, the average person cooks and heats water with manufactured gas, and heats his house with coal. The gas costs probably $1.25 per thousand feet for a gas with 530 heat units, and his average monthly bill is about $4.

At the beginning of the year, he knows it will take about 10 tons of coal to heat his house and that it will cost him $14 per ton. He buys his coal at the beginning of the winter, and pays cash for it before he starts to use it. He knows that if it is a mild winter, he may have one or two tons left, and if it is cold, he may have to buy a ton or two extra. He does not know how much or how little he takes out of his bin during any particular month, and he does not care as he has a good idea that his total bill for the winter will be $140, more or less. He knows his gas bill for cooking and water heating runs about $4 per month on an average; probably a little higher in winter when hot food is more popular and hydrant water cold.

The average person in Houston has different conditions. He uses gas with 1,000 heat units per foot and he pays only 65 cents for it, plus a monthly service charge of 50 cents. He uses gas for water heating and cooking, and also, in place of coal, for heating his home. He uses about 50,000 feet of gas per year, and it costs him about $38 for all purposes compared to the more northern man's $198. He does not know it, but about 29,000 feet goes for cooking and water heating and about 21,000 feet for heating his house. Having already paid his service charge for his cooking and water heating, the 21,000 feet for heating his house at 65 cents costs about $13.65 per year. His bill—if he did not heat his house—would total about $24.35 per year, being somewhat larger in winter than summer.

During the summer months, his bill will be sometimes as little as $1.70 or less, while again in winter, it will jump up to as much as $9 or more for one month. He naturally becomes somewhat disconcerted about such a large bill, and he has no way to check the "whys and wherefores" or to account for such a large increase.

Gas companies have a method for computing the amount of househeating gas that a consumer uses during any bill period, known as the "Degree Day Deficiency" method. This method gives a very close ratio of the amount of heating gas used during any past period and that used during any other past period, based on the temperature reported by the United States Weather Bureau.

It is a fact that the average person uses no artificial heat in his house until the temperature falls below 70 degrees during the day time or the hours that he is up. As the night hours are about 10 degrees cooler than the day, he would not ordinarily use his heating plant until the day temperature is below 70 degrees and the night temperature below 60 degrees or when the mean temperature is lower than 65 degrees.

The amount of heat used each day

(Continued on Page 101)

## SIPHONS FOR REMOVING WATER FROM NATURAL GAS WELLS

A study of the design and operation of siphons for the removal of water from natural gas wells has been conducted by the United States Bureau of Mines, Department of Commerce, at the Petroleum Experiment Station, Bartlesville, Okla. The siphon is recommended as the best means of removal of water from gas wells, under most conditions, by the bureau. It is pointed out, however, that it is first of all important that steps be taken to exclude encroaching underground waters from the well.

The removal of water from gas wells is one of the most serious problems in the production of natural gas, especially in old fields, states the bureau in Technical Paper 460, by I. B. Williams, R. R. Brandenthaler and Morgan Walker. Usually the problem of water removal increases in importance as the production of gas declines; therefore, because many districts depend for their supply of gas upon wells that produce it only in small volumes, the problem is of major importance to producers and users of this fuel in many parts of the United States. However, the removal of water from gas wells should be considered of secondary importance to excluding water from the wells, and whenever possible the source of water should be determined and preventive measures taken. Methods of excluding water from gas and oil wells are given in various publications of the United States Bureau of Mines.

Frequently the condition of the wells is such that the water occurring in the formations penetrated by the wells and in the producing gas sands can not be shut off satisfactorily, and operators are compelled to remove the water by pumping, bailing, or swabbing, or by employing a siphon after it has entered.

Engineers of the Bureau of Mines believe that the cheapest and best method for removing water from gas wells is by means of a siphon where applicable, and the present paper is written mainly to describe a siphon and its operation and to encourage its use as a device for removing water from gas wells. A discussion of the fundamental physical laws involved in the study and operation of the siphon is included, as well as theoretical deductions which have been derived. Other methods for removing water from gas wells, such as pumping, blowing, bailing, and swabbing, are discussed briefly in the report.

The term "siphon," as used in the natural gas industry, is applied to a pipe or tubing installed in a gas well to remove water. Its operation depends upon expansion of gas within the eductor pipe and the fact that the rising gas bubbles decrease the density of the column of water in the siphon line. Usually the pressure of the formation gas in the well suffices to start the siphon; but occasionally well pressures are too low, and additional gas under pressure must be forced into the well at the casinghead. The first siphons were not equipped with jet holes to allow the gas to enter the eductor line above the point of water entry. Consequently, their operation was not entirely satisfactory. The siphon described in this paper is equipped with

(Continued on Page 151)

## Advantages of Using Natural Gas in Heating Shown to Consumers

OIL CITY, Pa., Feb. 10.—Members of the Oil City Rotary Club and their guests heard new and interesting facts about the natural gas industry when W. H. Locke, vice president of the United Natural Gas Co. of Oil City, spoke on the progress of the natural gas industry in the use of gas for house heating and industrial purposes. The use of gas for heating and lighting was prohibited in the early days by many cities in Pennsylvania by ordinance in the early days of the industry because it was held that gas was a "creation of the devil to be used at the last day." In 1855 the city of Pittsburgh opposed the use of gas because it would deprive coal miners of employment.

The speaker said in part as follows:

"Just 50 years after the drilling of the first well in Fredonia the first long distance iron gas pipe line in the United States was laid. This was a 2-inch line extending 5½ miles from the Newton well at Titusville.

"In contrast with this 2-inch line, we now have large size transmission lines which are being laid several hundred miles. Permit me to list just a few of the major projects: 22-inch line, 450 miles long from Monroe, La., to St. Louis, Mo.; 20-inch, 22-inch and 24-inch, 500 miles long from Monroe, La., to Birmingham and Mobile, Ala., and Atlanta, Ga.; 14-inch, 16-inch, and 18-inch, 250 miles long from Baxter Basin, Wyo., to Salt Lake City, Utah; 20-inch line, 250 miles long from Pampa, Tex., to Wichita, Kans.; 22-inch and 20-inch line, 340 miles long from Amarillo, Tex., to Denver, Colo.

"The laying of these lines would not be justifiable if the natural gas industry did not believe that a market is available for its product. This market is found in the consumption of gas for home heating and industrial plants.

"Gas house heating has emerged from its swaddling clothes and now is available in nearly every section of the country. The development period has been one of tremendous importance because it represents the entrance into the heating field of large, firmly established, progressive, amply financed, state regulated, public utility companies.

"The gas companies, with records of many years of uninterrupted public service, present something new to the home owner and that is a complete heating service. That service is given first in a consulting capacity during planning and construction of the home and later by furnishing an uninterrupted supply of gas of uniform quality, supplemented by expert maintenance as long as the house stands.

"One of the finest movements toward putting automatic house heating on a permanently high plane was the preparation of 'Approval Requirements for Central House Heating Gas Appliances' by the American Gas Association and the

(Continued on Page 105)

### GAS MEASUREMENT COURSE

The seventh annual southwestern gas measurement short course, which is conducted by the University of Oklahoma's College of Engineering, the Oklahoma Corporation Commission and the Oklahoma Utilities Association, will be held at Norman, Okla., April 15, 16 and 17. Representatives of natural gas utilities, natural gasoline manufacturers and meter manufacturing companies will attend.

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IT IS SAID OF A VERY POPULAR CHAMPION that he could stop a one hundred pound bag, dropped from the ceiling, with an uppercut. Also that he could "lay a man cold" with a six-inch jab to the jaw; that he packed a punch like a mule's kick. Was there ever any doubt of those statements in the minds of those who saw his superb build in the ring?

IT IS SAID OF THE GUIBERSON UNDERREAMER that it strikes a blow as hard as that of a drilling bit, that it will pound away, day after day, and never develop any of the characteristic underreamer weaknesses, —that it is the "world's strongest underreamer." There can be no doubt of these statements in the minds of those who know its construction. There is three times more down-thrust bearing surface. Cutters taper into the body with a dove-tail fit, secured by both bolt and mandrel. Head and tongue are forged in one piece, from a solid steel billet, so insides positively cannot pull out. Oversize cutters ream more hole and may be dressed many times, to exact gauge, on patented dressing form. Get into the top-notch class with a Guiberson Underreamer.

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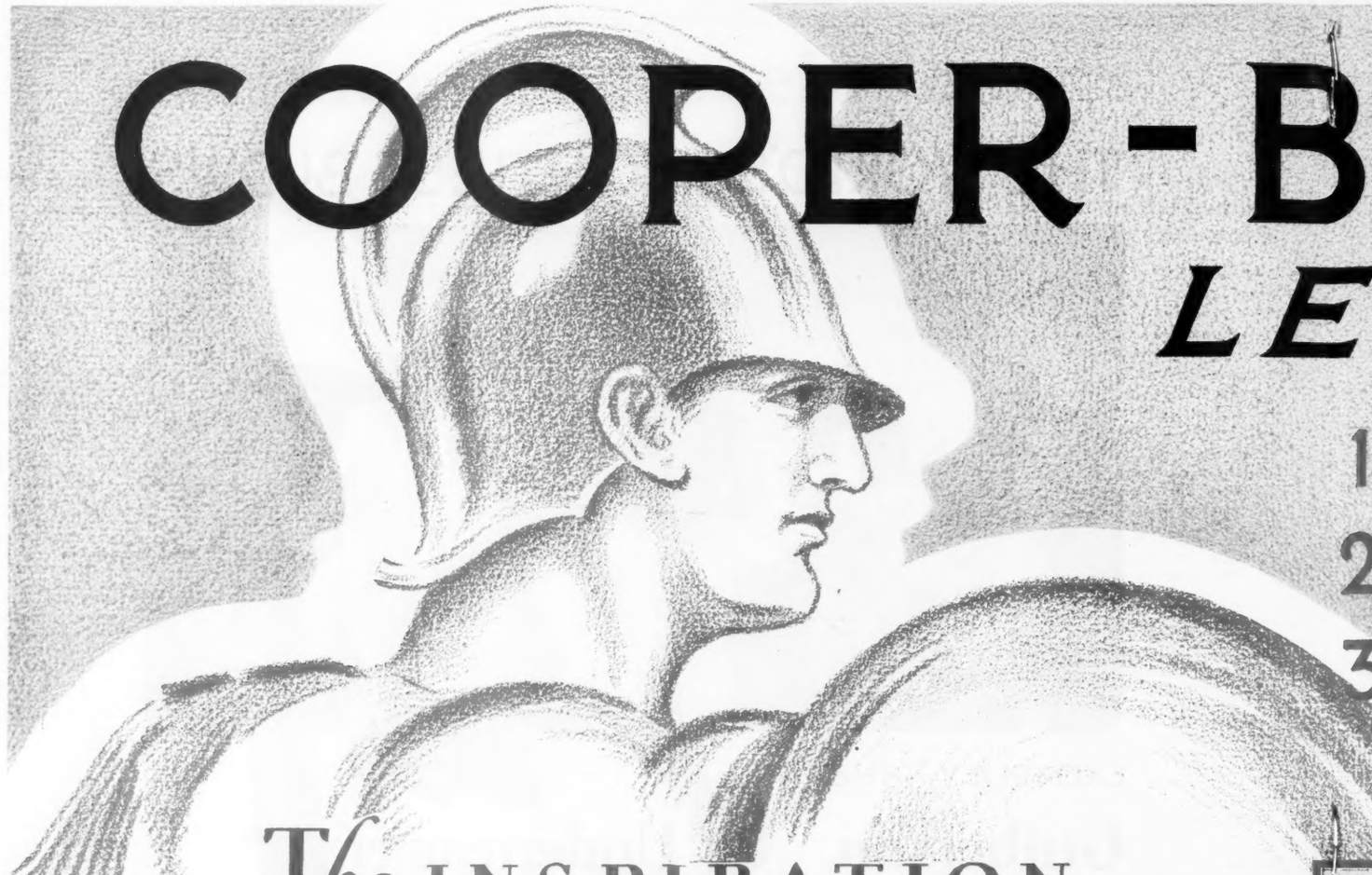

# The INSPIRATION of LEADERSHIP

AN imitative creature is man. But if men gave themselves up to imitation entirely, and each followed the other, and so on in an eternal circle, there could never be any improvement among them.

Leadership is inspirational alike to the leader and the led. For, deep rooted in every man, is the undying urge to excel his fellows in something deemed valuable to them.

Having signalized himself, the leader still achieves, still pursues. Each new success is but a greater spur to heights beyond.

Fortunate, indeed, for mankind is the ever-quickening pace set by the leader in every field of human endeavor. The perpetual ambition to be foremost is but the device of Providence to bring man's works ever upward and ever onward toward perfection.

## The Cooper-Bessemer Corporation

Formerly The C. & G. Cooper Company and The Bessemer Gas Engine Company

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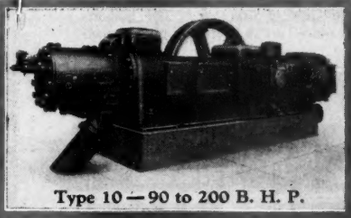
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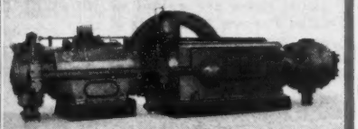
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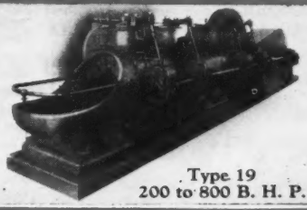
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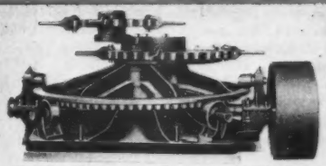
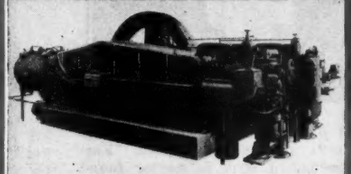
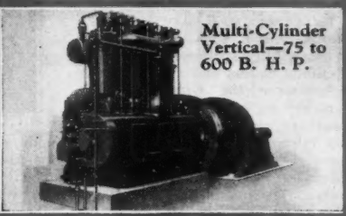
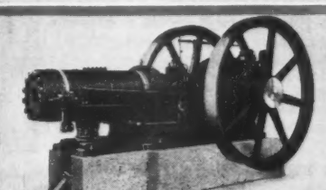
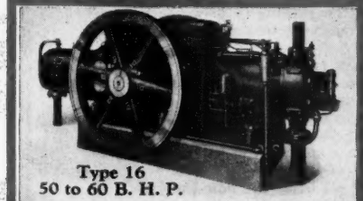

Roller Pumping Power — Built in 3 sizes to handle 8, 12 and 20 wells.


Type 80 — 85 to 190 B. H. P.


Multi-Cylinder Vertical—75 to 600 B. H. P.

Type 26 — 680 to 1500 B. H. P.


EC — 15 to 200 B. H. P.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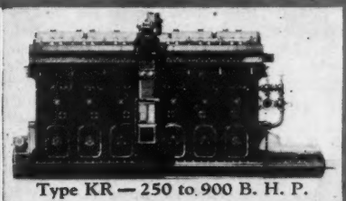
50 to 60 B. H. P.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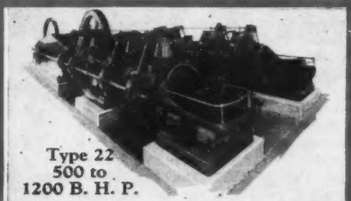
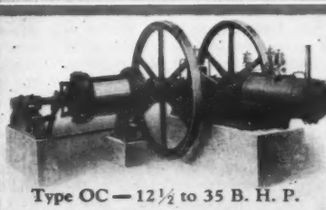

Type 22
500 to
1200 B. H. P.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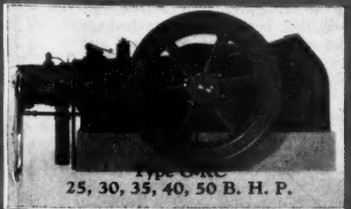
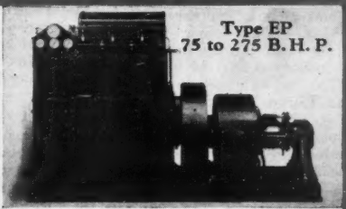
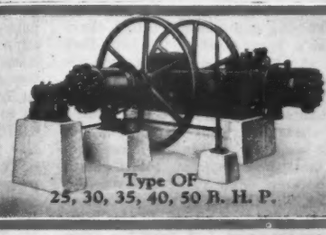

25, 30, 35, 40, 50 B. H. P.


Type EP
75 to 275 B. H. P.

Type FC-E — 25 to 65 B. H. P.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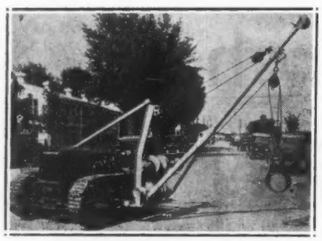
# EQUIPMENT AND SUPPLIES

## W-K-M BOOM AND WINCH NOW ON TRACKSON UNIT

The W-K-M boom and side winch now is manufactured in a model designed for mounting on the Model DH Trackson McCormick-Deering. This equipment, made by the W-K-M Co., Inc., Houston, Tex., increases the usefulness and versatility of the Trackson unit. Equipped with the boom this crawler tractor becomes adaptable to backfilling by the use of the throw-out bucket or Mormon board, pipe handling and laying, and other similar operations.

This combination of equipment lifts and carries loads of 4,500 pounds and will raise much heavier loads where stiff-leg is used. Sure footing and positive traction are said to enable the power



unit to carry the boom wherever it is needed, regardless of difficult ground conditions such as swamp land, steep grades, underbrush, loose sand or gravel, etc.

The boom and winch may be mounted on the tractor in the field, since the installation requires no drilling or cutting. This equipment when installed does not interfere with the use of the Trackson McCormick-Deering for drawbar operations such as skidding pipe, hauling scrapers, loaded trailers, etc., and pulling big trucks out of bad places.

The normal length of the boom is 13½ feet; extended, its maximum length is 19 feet. The side winch has two drums, each with a capacity for 495 feet of one-half-inch cable. The clutches are of the internal expanding, two-shoe friction type, 13¾ inches in diameter and each 35 inches long. All shocks and strains are absorbed by "A" frames at each side of the tractor, and the equipment is provided with ball-and-socket joints throughout to overcome strain through track oscillation.

## FOR BETTER DISTRIBUTION

One result of the movement toward better distribution of materials and supplies is the locating of large stocks of standard parts required by industry in stategic centers throughout the country, a result which benefits both the maker and user. Coupled with the trend toward simplification, it reduces losses formerly incurred by users in paying premiums of time and money for special goods shipped from distant points. An exponent of this modern distribution efficiency is the Link-Belt Co., Indianapolis, Ind., manufacturer of power-transmisison and materials-handling equipment. Silent chain drives have been stocked by Link-Belt distributors for 6 years. Now comes the latest extension of this power transmission service with the stocking of Link-Belt roller chain drives (the two wheels and the chain) by local distributors, on about the same basis. Link-Belt has prepared a new data book on roller chain, which contains engineering information and tables, enabling the user to select the correct drive for his particular purpose, figure the price, and order the drive from a distributor or dealer for immediate delivery.

## NEW VENT BREATHER VALVE

A new type of vent breather valve has been designed by the Vapor Recovery Systems Co. of Compton, Calif. It is a compact unit, of streamline proportions, and has static balanced pallettes. The body is stamped and fabricated from 18-gauge Toncan iron and the valve is painted inside and out with G. E. Glyptal lacquer. The guiding apparatus is of special alloy aluminum. The manufacturers assert that greater vacuum capacity is permitted owing to the streamline design, and that the unit has a low capillary attraction.

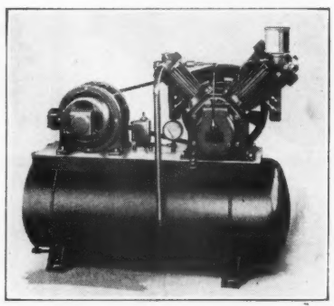
## INGERSOLL-RAND OFFER NEW TYPE COMPRESSORS

Ingersoll-Rand Co., New York, announce a new line of air-cooled two-stage air compressors, designated as the Type 30. V-type belt drive is employed. Both motor and compressor have ball bearings.

The units are self-contained, the motor and compressor being mounted on a steel base, which is attached to the top of the air receiver. The latter, which is made of heavy pressed steel, is built to withstand a working pressure of 200 pounds. With this arrangement no special foundation is required for correct alignment of the compressor and motor. The compressor is ready to operate as soon as the electrical connections to the motor have been made and the crankcase filled with oil.

The intercooler is located behind the fan-type flywheel, and a constant current of circulating air is driven directly across the cooling coils. This reduces the temperature of the discharge air.

Automatic start and stop control, furnished as standard equipment, operates independently, but in conjunction with



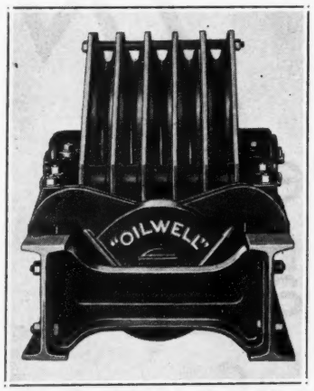
the unloader. When the pressure in the air receiver reaches a point at which the regulator is set to unload, the motor is automatically shut off. A centrifugal governor allows the air in the high-pressure cylinder and intercooler to exhaust through the crankcase. This prevents the compressor from starting against a load.

Honed cylinders and two oil control rings reduce the oil in discharge air to a minimum. Each piston is run into its respective cylinder insuring a perfect oil seal. The base of the compressor unit forms a reservoir for the oil, and no oil pump is required. A bayonet gauge gives positive indication of the amount of oil in the reservoir. A self-cleaning air cleaner keeps dirt out of the compressor. The compressor is entirely enclosed, and no dirt can get into it to wear out the working parts. A balanced crankshaft eliminates destructive vibration.

This improved two-stage design reduces power from 10 to 30 per cent. At the same time, less floor space is required. It is built in four sizes, three-quarter, 1½, 3 and 5 horsepower. All sizes are built for a working pressure up to 200 pounds continuous duty.

## OILWELL OFFERS A NEW CROWNBLOCK ACCESSORY

The Oil Well Supply Co. is marketing a cat-line sheave attachment for use with the "Oilwell" center-pin type crownblock. A cast steel carrier for the cat-




line sheave saddles the I-beams and is bolted to patented "Oilwell" T-slotted slides. The attachment can be mounted on or removed from the crownblock quickly. The sheave is 17½-inch outside diameter bronze bushed and Alemite lubricated. A large load capacity and convenient application are features of this new device.

The "Oilwell" five-sheave center-type crownblock is recommended for high speeds and heavy loads. Patented "Oilwell" T-slotted slides are welded to 15-inch, 65-pound I-beams. The heads of the end bearing bolts fit in the T-shaped slots and cannot fall out to injure workmen below. The slide feature also provides for easy adjustment of the center pin assembly lengthwise on the beams. The heavily constructed end bearings are of the box and cap type, which permit the center pin assembly to be mounted easily on the beams at the top of the derrick.

High manganese steel sheaves of 36-inch diameter and with rope grooves ground to A.P.I. specifications, afford a good bending radius and a smooth surface to conserve the wire line. The sheaves rotate on heavy duty American roller bearings and each bearing is individually lubricated through grease passages from the ends of the center pin. The center pin has a carrying capacity greater than the combined safe working load capacity of the wire line.

The "Oilwell" five-sheave center-pin type crownblock is adaptable as the upper deck for "Oilwell" double-deck crownblocks.

## McKEE ACTIVITIES EXTENDED

Arthur G. McKee & Co. of Cleveland and London, engineers and contractors in connection with blast furnaces, steel plants and oil refineries, announce extension of their activities to include general industrial building, engineering and construction. The company heretofore has limited itself largely to building operations incidental only to its specialized work which has extended throughout the Americas, Europe and the Far East. A. R. McCreary of New York, who has been appointed manager of the building construction department, was formerly vice president and general manager of the Crowell-Lundoff-Little Co. of Cleveland and subsequently was connected in executive capacities with the Foundation Co. and Hoggson Brothers, both of New York.

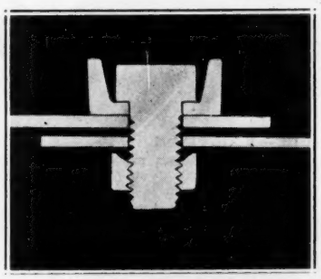
## AIR CHAMBER FOR DEEP WELLS

The Union Machine Co., Bartlesville, Okla., has developed an air chamber for deep pumping wells, and operating tests are said to have shown the worth of this tool. It is well known that surface pumps, operating against pressures of 500 to 1,000 pounds, call for air chambers and other absorbers to take the shock caused by the action of the pump piston against the solid fluid column. Yet during all the years of deep well pumping pumps have been placed in the bottom of wells 1,500 to 4,000 feet deep, working against pressures up to 2,000 pounds or more, without any shock relief, causing split tubing, sucker rod breaks, wear on cups, barrels, and valves, owing to the fluid slippage and a heavy loss in fluid output. This new shock absorber, or aleviator, is said to lessen the shock load 33 per cent and to increase and steady the flow 25 per cent, by actual weighing machine tests.

## RECESSED NUT STOPS LEAK AT TANK JOINT

Engineers of the Columbian Steel Tank Co., Kansas City, Mo., have found a simple way of eliminating the leakage in bolted steel tanks by the application of a recessed nut and gasket which makes an absolutely liquid-proof joint, according to A. A. Kramer, president of the Columbian.

With the recessed nut in use, Mr. Kramer says, the packing may be punched by machinery, making a clean hole for the bolts to go through, and incidentally saving much time in erection. The gaskets then are placed over the bolts on the out-



side and pressed into the recessed nuts as the nuts are tightened down. Formerly the bolted tank fabricator found it necessary to drive the bolts through the packing, depending upon the ragged edges of the packing to crowd themselves around the bolts to make the tank leakproof.

The new type of nut opens a wide field for the use of bolted steel tanks, Columbian engineers point out, for it makes it possible to use any suitable type of packing and gaskets, such as chemically treated paper, fibre, rubber, etc., according to the kind of liquid to be stored.

In the oil fields the new leakproof nut is expected to eliminate the necessity of returning to retighten the bolts after tanks are filled, besides stopping leakage which causes the loss of much oil and ruins the tank paint by streaks from leaky bolt holes.

A 120-page flexible-shaft handbook prepared by the S. S. White Dental Manufacturing Co., New York, shows how the products of that company have spread beyond the requirements of the dental profession. The flexible shaft is designed for transmission of power around corners and in all cases where the driving and driven elements are not in alignment.

"Winter's grip will soon be loosened. In replacing old or damaged equipment on your properties, let the Quality Products of the famous makers of Oil Industry Equipment, listed herein, reduce your future operating costs."

AXELSON MANUFACTURING CO., LTD.
Sucker Rods, Pull Rods, Working Barrels, Etc.

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Oil Country Boilers and Tanks

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WHITLOCK CORDAGE COMPANY
Manila Cordage, including Drilling Cables, Bull Ropes, Cat Lines, Etc.

# FRICK-REID SUPPLY CORPORATION

**Pittsburgh, Pa., Tulsa, Okla.**
**...and Branches**

# EQUIPMENT AND SUPPLIES

## PEERLESS PUMPS FIND WIDER OIL FIELD USE

The Peerless Pump Co., Los Angeles, Calif., whose deep-well pumps are finding growing use in the oil industry, has obtained larger quarters in Fresno, Calif., acquiring a lease on the More-Pak Building at Sacramento and H Streets. The company now has a floor area of approximately 25,000 square feet, with a machine shop and assembling plant to take care of pump repair work and service.

Peerless deep-well pumps are used to lift water for virtually every purpose. Large quantities of water are used in

*Typical oil-field installation of a Peerless deep-well pump.*

refineries. In the drilling of wells the importance of an unfailing source of water is well known. Many Peerless deep-well turbine pumps are in service in refineries on the Pacific Coast and the Mid-Continent area. In the oil fields they are lifting water to fill the requirements of rotary drilling. New and improved features have been incorporated in the latest models and new units have been added to the line, according to the manufacturers.

L. A. Harnish, with the company for the last four years in the Fresno district, will have charge of sales and service. A. J. Anderson, formerly in charge of the San Jose branch, will oversee the Fresno shop.

## VOGEL REPRESENTATIVE OF ST. MARYS COMPANY

C. S. Vogel, who has been made factory representative for the St. Marys Oil Engine Co., of St. Charles, Mo., was for the last four years district sales manager for the Continental Supply Co. in the north Texas territory. Before that he was with the old Atlas Supply organization.

**C. S. Vogel**

The St. Marys company, it is said, has been perfecting an engine designed with a special view to its adaptability for use in the oil field. It is understood that plans have been completed for putting the engine on the market. Mr. Vogel, as representative of the company, will maintain headquarters in Fort Worth, Tex.

### BUSINESS NOTES

Dresser & Gorton, Inc., engineers, Tulsa, have moved to Second Street and Detroit Avenue, where a showroom will be combined with their offices. Two subsidiaries, the Oil States Manufacturing Co. and the Machine Tool & Supply Co., will combine their offices with those of Dresser & Gorton.

The Chek-Chart Corp. of Illinois, in the head offices in Chicago, has purchased full rights to publish and sell the lubrication charts formerly distributed by the Bonnet Brown Corp. of Chicago.

At a recent directors' meeting of the Haynes Stellite Co., New York, unit of Union Carbide & Carbon Corp., E. E. LeVan was appointed general sales manager and J. H. Maguire, works manager.

Headley Emulsified Products Co., Philadelphia, Pa., manufacturer of emulsified asphalts, announces the appointment of M. D. Tracy as general sales manager.

Link-Belt, Ltd., has opened a branch office in the Standard Bank Building, 510 West Hastings St., Vancouver, with Frank B. Wetherill, experienced engineer, in charge.

At a directors' meeting of the Union Carbide Co. and the Electro Metallurgical Co., both units of Union Carbide & Carbon Corp., Benjamin O'Shea, formerly president, was elected chairman of the board of each company. Fred H. Haggerson, former vice president of the two companies, was elected to succeed Mr. O'Shea as president. F. P. Gormely was elected vice president and general manager of both companies.

H. K. Warren, formerly drilling superintendent for the Carl B. King Drilling Co., has joined the Lucey Products Corp. as sales engineer in Oklahoma City.

Neilan, Schumacher & Co., manufacturers of automatic control and regulating equipment, have appointed Patrick H. Heeney as their South American sales representative. Mr. Heeney will have his headquarters in Maracaibo, Venezuela.

## AXELSON MACHINE CO. NOW UNDER NEW NAME

After operating under one name for 38 years, the Axelson Machine Co., large manufacturer of oil field equipment, will be known hereafter as the Axelson Manufacturing Co., Ltd., according to an official announcement by Jule C. Axelson, president. The new company will continue under the identical management of the old one, there being no change except in name. The manufacturing policy of the company, however, is being broadened in order to place the facilities of the company at the service of various industries.

During 1930 manufacturing units are to be added to the present large factory in Los Angeles, Calif., so that new tools and new equipment of miscellaneous design can be made without interference with the units devoted exclusively to the production of oil well pumps, sucker rods, fittings and other tools required in the oil industry. Each of the manufacturing divisions is to be operated separately but all will function as a unit under the direction of the same officers who have been in charge, Jule C. Axelson, president; Delbert F. Axelson, vice president and general manager; C. F. Axelson, executive vice president; Clyde Ellwood, vice president, director of sales, and Everett E. Kerfoot, secretary and treasurer.

## SALES REPRESENTATIVE WITH COOPER-BESSEMER

J. D. Cudney, formerly manager of oil and gas engine sales for Ingersoll-Rand Co., with headquarters in Dallas, Tex., has joined the sales force of the Cooper-

**J. D. Cudney**

Bessemer Corp. Mr. Cudney's new position is that of special sales representative for the Cooper-Bessemer line. With headquarters now in Mount Vernon, Ohio, he will work on gas and oil engine problems.

### NEW DRIVE FOR ELEVATORS

A new standardized drive for elevators has been announced by H. W. Caldwell & Son Co., of Chicago. This drive is described as compact, efficient and positively quiet at all speeds. It is built to operate centrifugal discharge, perfect discharge or continuous bucket elevators requiring 3 to 15 horsepower. The entire line is standardized and carried in stock. The first reduction of the drive is made up of a ruggedly built fully enclosed worm-gear speed reducer to which a motor is coupled. The motor and the worm reducer are accurately aligned on a welded steel base, making a compact assembly easily supported on the elevator casing or platform. The second reduction in speed is made by a Link-Belt roller chain drive, said to provide a maximum of strength, durability, efficiency and quietness of operation, combined with a minimum of weight and of space required. It also acts as a flexible connection between the reducer shaft and head shaft.

### TUBE-TURNS DISTRIBUTOR

Buck & Stoddard, Inc., Union Oil Building, Los Angeles, Calif., Pacific Coast distributor of Tube-Turns, the seamless drawn fittings for pipe welding, has appointed as its northwest distributor the Asbestos Covering & Supply Co. of Seattle, Wash. The Asbestos Covering & Supply Co. also distributes Johns-Manville's pipe insulation, cash valves, and sound-deadening materials. This company maintains branch offices in Tacoma, Wash., and Portland, Ore., and covers both of these states, which will be its exclusive territory for soliciting Tube-Turns sales. A complete stock of Tube-Turns is carried in the Asbestos Covering & Supply Co.'s warehouse and immediate shipment can be made of all sizes.

### TRADE LITERATURE RECEIVED

"Oxwelded Construction for Modern Piping Services," published by the Linde Air Products Co., New York, is an 80-page book "compiled with the idea of presenting under one cover salient facts concerning the welding of steel and wrought-iron piping for modern services." It sets forth the advantages of the process and the reasons for its employment.

Good points of International trucks are brought out in attractively written and illustrated articles in the International Trail.

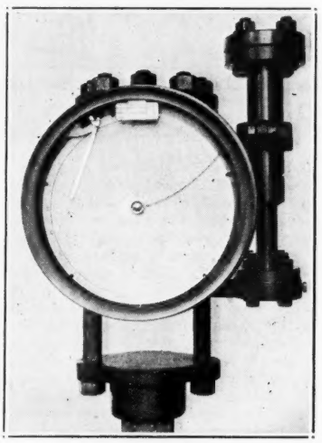
A new booklet prepared by the Sullivan Machinery Co., Chicago, entitled, "Handbook of Rock Drill Steel," gives practical working hints on the handling of the drill-steel problem. The book contains instructions for two different types of Sullivan drill steel sharpeners, also of the Sullivan drill steel furnaces, operated by either oil or gas.

The Fluid Packed Pump Co., Los Nietos, Calif., has issued an attractive illustrated booklet describing the fluid packed pump and its operation.

"Protecting Pipe Lines Against Corrosion," by A. Saunders, research engineer for the Lewis Asphalt Engineering Corp., New York, has been printed for distribution in booklet form.

## NEW FLOW METER WILL STAND HIGH PRESSURE

The increasing use of high pressures for boilers and for process work has led to the development by the Foxboro Co., Foxboro, Mass., of a new flow meter to stand a working pressure of 0 to 5,000 pounds per square inch. It has been built for measuring the flow of gas, air, steam, hot oil and gasoline. While retaining all the features of Foxboro orifice



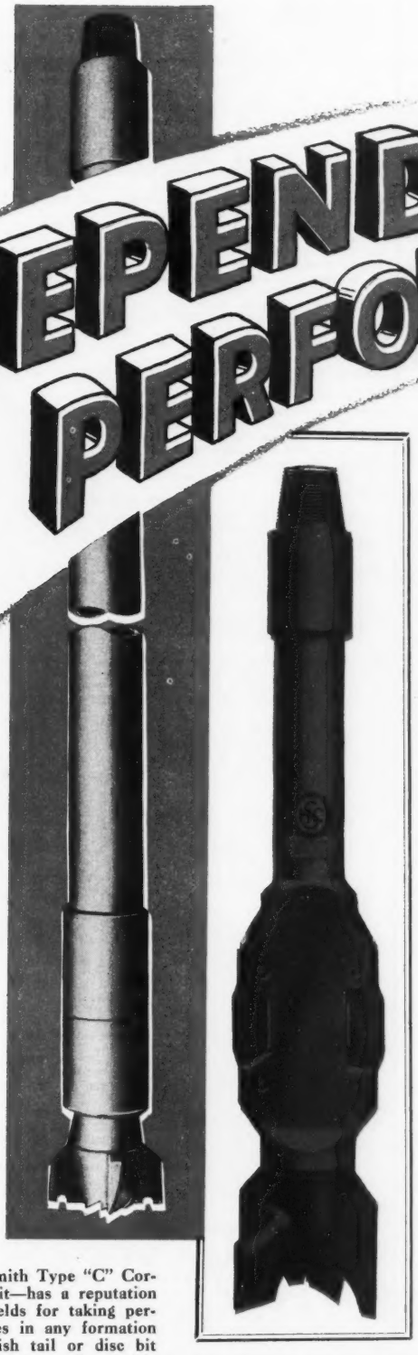
meters the pressure chambers of this new meter have been so constructed as to meet the higher pressures with safety. All working parts subjected to pressure are drop forgings, and every part is specially designed for high pressure work.

According to the manufacturer all known errors and variables have been eliminated, and the new meter has no unknown quantities and no inherent defects. It is calibrated to read and record in terms of flow and may be equipped with an integrator that reads direct without multipliers the total flow in gallons or feet or pounds.

# DEPENDABLE PERFORMANCE

*A built-in characteristic of*

# H.C.SMITH *Quality* TOOLS



H. C. Smith Type "C" Coring Outfit—has a reputation in all fields for taking perfect cores in any formation that a fish tail or disc bit will penetrate. Renewable cutter-heads. Drop-forged steel throughout.

H. C. Smith Type "G" Drilling Bit with roller reamer body. Reamers steady the bit and insure straight hole. Eliminates necessity of reaming down to get new bit on bottom. Bit embodies H. C. Smith serrated design so successful in making hole.

A reputation for dependable performance—especially when applied to coring, underreaming and drilling tools — is a hard-earned asset. It must be proved and re-proved until operators know its truth.

H. C. Smith Tools enjoy spontaneous acceptance because of their long association with top quality in the petroleum world.

Operators everywhere want the kind of tools H. C. Smith Company make, and the H. C. Smith engineering department is constantly on the alert — watching changing conditions in the field—developing new tools, and improving present devices—to insure the highest possible efficiency in oil well drilling, underreaming and coring operations.

*Write for descriptive catalogs of the H. C. Smith Tools in which you may be interested.*

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Los Nietos, California

*Branch Offices and Warehouses:*

Bakersfield, Calif. Ventura, Calif.

*Cable Address:* "Smitheo, Whittier"

## LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 59)

Nat. Gas Prod. Co.'s No. 3 U. S. Govt., 1,520 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Location.
Nat. Gas Prod. Co.'s No. 4 U. S. Govt., 2,440 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Location.
Palmer Corp.'s No. 4 Roberson, 660 ft. E, 660 ft. S, NW cor. NW NE, Sec. 26-23-12 ..... Drlg. 4½-in. plug 3,175 ft.
Phillips Pet. Co.'s No. 1-A Bollinger, (formerly Sales & Walker's No. 4 Bollinger) 696 ft. S, 1,120 ft. E, NW cor. SW, Sec. 30-23-11 ..... Cmtng. 6⅝-in. 3,117 ft; 5-ft. sand; T.D. 3,124 ft.
The Texas Co.'s No. 2 Peyton, 990 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 ..... Began drlg. Jan. 30; cmtd. 10-in. 420 ft; drlg. 1,250 ft.
The Texas Co.'s No. 3 Peyton, 990 ft. N, 990 ft. E, SW cor., Sec. 30-23-11 ..... Derrick.
The Texas Co.'s No. 1 J. W. Wilkinson, 660 ft. N, 660 ft. W, SE cor. NE, Sec. 36-23-12 ..... O.W.D.D; completed Oct. 1, '27; 23,000 ft. gas in 2-ft. sand; T. D. 3,073 ft; rigging up to deepen.
John Woodley et als' No. 2 L. & A., 990 ft. N. 990 ft. W, SE cor., Sec. 14-23-12 ..... Completed Mar. 30, '26, flowing 200 bbls. fluid, 80% S.W; 4-ft. sand; T.D. 3,081 ft; rigging up to deepen.
Woodley et als' No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12 ..... Rig up.

### CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Taylor Trosper, 2,519 ft. S, 1,293 ft. E, CWL, Sec. 7-16-16 ..... Location.

### CADDO PARISH—HOSSTON

Bayou State Oil Corp.'s No. 1 Barr, 450 ft. S, 650 ft. W, NE cor. NW SE, Sec. 30-22-15 ..... Derrick.
Bayou State Oil Corp.'s No. 29 Jolly, 425 ft. W, 775 ft. N, SE cor. NE ..... Completed Jan. 21; production 10 bbl., 1,003 ft.
Bayou State Oil Corp.'s No. 18 Levee Board, 450 ft. N, 150 ft. E, SW cor. NW, Sec. 23-22-15 ..... W.O.S.R; T.D. 1,003 ft.
Bayou State Oil Corp.'s No. 5 Owens, 1,220 ft. S, 560 ft. W, C, Sec. 21-22-15 ..... W.O.S.R. 1,023 ft.

### CADDO PARISH—DIXIE

Dixie Oil Co.'s No. 1 B. Dickson, 300 ft. N, 300 ft. E, SW cor., Sec. 10-19-14 ..... Location.
Sam Gold's No. 3 Hunter, 660 ft. N, 660 ft. W, SE cor. SW NE, Sec. 17-19-14 ..... 200 ft. oil and S.W. in hole 2,447 ft; W.O.S.R; topped broken sand 2,415 ft.
Lide et als' No. 1 Dickson heirs, 795 ft. N, 200 ft. E, SW cor., Sec. 10-19-14 ..... Cmtd. 6⅝-in. 2,400 ft; W.O.S.R. 250 ft. oil; T.D. 2,458 ft.

### CADDO PARISH—MOORINGSPORT DISTRICT

Falcon Oil Co.'s No. 2 Nunnely, 3,012 ft. N, 3,091 ft. E, SW cor., Sec. 29-20-15 ..... Cmtd. 10-in. 100 ft; drlg. 925 ft.

### CADDO PARISH—OIL CITY

Gulf Ref. Co.'s No. 23-A Levee Board, 1,590 ft. S, 1,120 ft. W, NE cor. NW ..... Cmtd. 6⅝-in. 1,800 ft.
H. M. Matson's No. 1 U. S. Govt., 900 ft. E, 400 ft. S, NW cor., Sec. ..... Coring 900 ft.
P. T. Mize's No. 1 La. O. R. Corp., 445 ft. N, 100 ft. E, SW cor. SE, Sec. 1-20-16 ..... Cmtd. 6⅝-in. 1,225 ft; W.O.S.R. 300 ft. oil; corrected depth 1,551 ft.
The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-16 ..... Rigging up.
Thompson & Fitzsimmons' No. 1 Howell, 600 ft. S, 300 ft. W, NE cor. SE, Sec. 13-22-16 ..... Arranging to cmt. 8-in. 2,446 ft.

### PINE ISLAND

Shreveport Oil Corp.'s No. 4 Hicks, Sec. 32-19-15 ..... Began drlg. Jan. 24; cmtd. 12½-in. 100 ft; S.D. 300 ft.
Simplex Oil Co. et als' No. 1 Tom Thomas, 200 ft. N, 660 ft. W, SE cor. NE, Sec. 15-20-15 ..... Cmtd. 6⅝-in. 2,157 ft; W.O.S.R. 2,220 ft.

### CLAIBORNE PARISH—HOMER

Oakes et als' No. 1 Richardson, NE SE, Sec. 19-21-17 .. S.D. 1,700 ft.

### LA SALLE PARISH—URANIA

Ark. Fuel Oil Co.'s No. 5 Urania, 200 ft. S, 200 ft. E, NW cor. NE SE, Sec. 24-10-1e ..... Drlg. lime 4,532 ft.
Gulf States Gas Co.'s No. 1 Urania, 250 ft. W, 150 ft. S, NE cor., Sec. 1-10-1e ..... Began drlg. Jan. 30; cmtd. 10-in. 100 ft; drlg. 550 ft.
Hope Oil Co.'s No. 5 Urania, 660 ft. E, 150 ft. S, NW cor. SW SW, Sec. 19-10-2e ..... Derrick.
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.
S. D. Ray's No. 1 Urania, Sec. 19-10-2e ..... 1,200 ft. oil, some S.W; 3-ft. sand; W.O.S.R. 1,568 ft.

### MOREHOUSE PARISH

Bahan & Bahan's No. 3 Feazel, 990 ft. S, 990 ft. W, NE cor., Sec. 3-20-4 ..... Cmtd. 6-in. 2,088 ft.
Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 3-20-4 ..... Location.
J. B. Bond's No. 1 Haynes, 400 ft. N, 400 ft. E, SW cor., Sec. 34-21-5 ..... Began drlg. Jan. 24; drlg. 110 ft.
Consolidated Carbon Co.'s No. 2 White, Sec. 16-20-4 .... Drill stem stuck 2,115 ft.
J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 ..... Cmtd. 9-in. csg. 2,190 ft; arranging test 2,260 ft.
Magnolia Pet. Co.'s No. 8 U. S. Govt., 310 ft. S, 410 ft. E, NW cor., Lot 4, Sec. 33-21-5 ..... Cmtd. 15½-in. 204 ft.
Nat. Gas Prod. Co.'s No. 25 Crossett Lbr. Co., 1,444 ft. S, 793 ft. W, NE cor. NW, Sec. 29-21-5 ..... Arranging to cmt. 10-in. 437 ft.
J. A. Noe et als' No. 1 Wright, 694 ft. N, 393 ft. W, C, Sec. 27-20-4 ..... Location.
Southern Carbon Co.'s No. 14 Tensas, 660 ft. N, 660 ft. E, SW cor. NW, Sec. 34-21-4 ..... S.D. account high wtr; T.D. 2,081 ft.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.
United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

### OUACHITA PARISH

Amalgamated Carbon Co.'s No. 2 Cole, 742 ft. E, 703 ft. S, NW cor., Sec. 43-19-4 ..... Cmtd. 8-in. 890 ft; drlg. 2,116 ft.
Chauvin Gas Co.'s No. 4 Slagle Johnson, 647 ft. W, 2,803 ft. S, NE cor., Sec. 47-18-4 ..... Rig up.
Hope Prod. Co.'s No. 1 Fairbanks, 660 ft. N, 624 ft. E, SW cor. SE, Sec. 25-20-4 ..... Arranging to plug back; T.D. 2,383 ft.
Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.
Hope Prod. Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Location.
G. E. Jordan's No. 1 Anding, NW NE, Sec. 18-18-5 ..... Plugging back to 2,234 ft; T.D. 2,480 ft.
La. Gas & Fuel Co.'s No. 1 Beard, Sec. 46-18-4 ..... Cmtd. 6-in. 2,143 ft.
Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Derrick.
New Process Carbon Co.'s No. 2 Cole, 1,971 ft. E, 1,820 ft. N, SW cor., Sec. 35-20-4 ..... D.S. tests 10-ft. sand at 2,810 ft. and 8-ft. sand at 2,857 ft; dry; arranging to plug back to 2,180 ft.
Sho-Van Gas Products Co.'s No. 3 W. Va., 1,980 ft. S and W, NE cor., Sec. 8-18-4 ..... Cmtd. 6-in. 2,145 ft.
Sho-Van Gas Products Co.'s No. 4 W. Va., 1,078 ft. N, 294 ft. W, NE cor., Sec. 49, in Sec. 7 ..... Rig up.
Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 22-19-5 ..... Dry 2,357 ft; arranging to test 2,406 ft.
United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,896 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 25, Sec. 49-20-5 ..... Derrick.
United Carbon Co.'s No. 2 Puckett, 660 ft. N, 660 ft. E, SW cor. SW, Sec. 15-19-5 ..... S.W. 2,365 ft; arranging to deepen.
United Carbon Co.'s No. 4 Spade, 774 ft. S, 2,081 ft. E, NW cor., Sec. 6-18-4 ..... S.D. 2,040 ft.
United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.
United O. & N. G. Co.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

### RICHLAND PARISH

Ark. La. P. L. Co.'s No. 1 A. E. Purvis, 762 ft. N, 1,180 ft. W, SE cor., Sec. 34-17-6 ..... Drlg. 2,340 ft.
Ark.-La P. L. Co.'s No. 3-B E. A. and F. B. Sartor, 300 ft. N, 330 ft. E, SW cor., Sec. 24-16-5 ..... Location.
W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig up.
Franklin O. & G. Co.'s No. 1 F. Smith, Sec. 24-16-6 .... Drlg. 1,780 ft.
Hope Prod. Co.'s No. 1 C. M. Purvis, 632 ft. S, 1,232 ft. W, NE cor., Sec. 3-16-6 ..... Drlg. shale 2,100 ft.
International Gas Products Co.'s No. 1-B Beck, 660 ft. S, 713 ft. E, NW cor., Sec. 36-16-6 ..... Drlg. shale and boulders 2,285 ft.
International Gas Products Co.'s No. 1 Minnie La-Grone, 769 ft. N, 858 ft. E, SW cor., Sec. 7-16-7 ..... Location.
La. G. & F. Co.'s No. 1 Chapman, 2,497 ft. E, 1,980 ft. S, NW cor., Sec. 36-16-6 ..... Began drlg. Feb. 3.
M. L. Meredith's No. 1 Holdness, 1,980 ft. S. 990 ft. W, NE cor., Sec. 15-16-6 ..... Cmtd. 6-in. 2,282 ft.
Nat. Gas Products Co.'s No. 1-C Sartor, 536 ft. N, 1,333 ft. E, SW cor. NW, Sec. 21-16-6 ..... Cmtd. 10-in. 417 ft.
Palmer Corp.'s No. 1-A F. N. Boykin, 660 ft. N, 660 ft. W, SE cor. NE, Sec. 20-17-6 ..... Blew out cmt. 9-in. 925 ft; drlg. 1,738 ft.
Palmer Corp.'s No. 1-A Earl, Sec. 2-16-6 ..... Reported Jan. 22; blowout; estimated 45,000,000 ft. gas 2,498 ft; arranging to cmt. 4½-in.
Southern Carbon Co.'s No. 1 Hale, 660 ft. N, 760 ft. W, SE cor., Sec. 16-16-6 ..... Cmtd. 6-in. 2,282 ft; T.D. 2,282 ft.
Southern Carbon Co.'s No. 1 McCoy, 1,980 ft. E, 3,300 ft. S, NE cor., Sec. 16-16-6 ..... Rig up.
United Carbon Co.'s No. 1 D. R. Sartor, 3,341 ft. W, 3,960 ft. S, NE cor., Sec. 11-16-6 ..... Began drlg. Jan. 29; cmtd. 12-in. 165 ft; 8-in. 825 ft.

### SABINE PARISH—PLEASANT HILL

Bridges-Clarke Oil Co.'s No. 1 Guy, 300 ft. N, 300 ft. E, SW cor. SE SE, Sec. 33-10-12 ..... Arranging test; T.D. 2,486 ft.
Hatcher et als' No. 1 Moore heirs, 300 ft. N, 300 ft. E, C, Sec. 32-10-12 ..... Derrick.
Magnolia Pet. Co.'s No. 2 McLeroy, 230 ft. S, 200 ft. W, NE cor. W½ SE SW, Sec. 33-10-12 ..... Began drlg. Jan. 31; cmtd. 15½-in. 182 ft.

### SABINE PARISH—ZWOLLE

Amerada Pet. Corp.'s No. 1 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. NE NE, Sec. 33-8-12 ..... Tested dry 2,364 ft; coring 2,420 ft.
Benedum & Trees Oil Co.'s No. 3 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor. SE, Sec. 34-8-12 ..... Derrick.
R. L. Gay, trustee's No. 6 Bowman-Hicks, 900 ft. N, 800 ft. W, SE cor. NW SE, Sec. 14-7-14 ..... Tested dry 2,375 ft; arranging to deepen.
Benedum & Trees Oil Co.'s (was R. L. Gay, trustee's) No. 2-A Bowman-Hicks Lbr. Co., 200 ft. S, 200 ft. W, NE cor. NE NW ..... Drlg. 1,605 ft.
R. L. Gay, trustee's No. 3 Sabine Lbr. Co., 1,120 ft. N, 200 ft. E, SW cor., Sec. 13-7-14 ..... W.O. 120 ft. oil in hole; T.D. 255 ft.
Haynes Bros.' No. 1 Dover, 1,120 ft. W, 200 ft. N, SE cor. NE, Sec. 28-8-12 ..... Cmtd. 6⅝-in. 2,280 ft; T.D. 2,316 ft.
Lide et als' No. 1 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. W½ NE SE, Sec. 31-8-12 ..... Drlg. 2,115 ft.
Ohio Oil Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. NW SW, Sec. 35-8-12 ..... Top chalk 2,392 ft; cmtd. 6⅝-in. 2,385 ft; standing full oil; two small heads; W.O.S.R; T.D. 2,405 ft.
Ohio Oil Co.'s No. 2 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 33-8-12 ..... W.O; 60 ft. oil in hole; T.D. 2,462 ft.
Olsen Bros.' No. 1 Keeler, SW cor. SW SE, Sec. 27-8-12.. Bailed dry 2,430 ft; 2,478 ft; and 2,493 ft; drilled to 2,625 ft; 150 ft. oil in hole; W.O.S.R; 2,625 ft.
Ruston Drlg. Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor., Sec. 4-7-12 ..... Cmtd. 10-in. 75 ft; drlg. 450 ft.
Ruston Drlg. Co.'s No. 1-A Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SW, Sec. 35-8-12 ..... Derrick.
Ruston Drlg. Co.'s No. 1 Holliday, 330 ft. N, 330 ft. E, SW cor. NW, Sec. 35-8-12 ..... Cmtd. 6⅝-in. 2,322 ft.
Sabine O. & G. Co.'s No. 1 Anderson, 200 ft. N, 200 ft. E. SW cor. SW NW, Sec. 19-18-13 ..... S.D. for fuel 2,505 ft.
Stovall Drlg. Co.'s No 1 Lefkovitz, 247 ft. N, 250 ft. W, SE cor. N¾ SE NW, Sec. 33-8-12 ..... Rig up.
A. H. Tarver's No. 1 Sabine State Bank, 250 ft. N, 250 ft. W, C, Sec. 27-8-12 ..... Drlg. 1,550 ft.
Tippett Drlg. Co.'s No. 1 Hughes, 200 ft. S, 200 ft. E. NW cor. SW NW, Sec. 36-8-12 ..... Drlg. 2,300 ft.
Warner-Quinlan Co.'s No. 1 Sabine Lbr. Co., 238 ft. N, 328 ft. W, SE cor. NW NE, Sec. 34-8-12 ..... Cmtng. 8⅛-in. 2,326 ft.
Warner-Quinlan Co.'s No. 1 Peterson, 660 ft. S, 660 ft. W, NE cor. NW SE, Sec. 26-8-13 ..... Drlg. 1,980 ft.

### WEBSTER PARISH—COTTON VALLEY

Ohio Oil Co.'s No. 46 Bodcaw, 660 ft. N, 660 ft. E, SW cor. SW NW, Sec. 28-21-10 ..... Drlg. anhydrite 4,490 ft.
Palmer Corp.'s No. 3 Miller, 660 ft. N, 660 ft. E, SW cor., Sec. 28-21-10 ..... Drlg. 3,648 ft.
Standard Oil Co.'s No. 1-B Crichton, 660 ft. S, 660 ft. E, NW cor., Sec. 33-21-10 ..... Rig up.

### WEBSTER PARISH—SAREPTA AND SHONGALOO

Bateman et als' No. 1 J. E. Womble, Sec. 1-22-11 ..... W.O.S.R; 1,200 ft. oil; T.D. 2,712 ft.
Bateman et als' No. 2 Womble, 2,840 ft. S, 1,120 ft. E, NW cor., Sec. 1-22-11 ..... Cmtd. 6-in. 2,701 ft; T.D. 2,715 ft; 1,500 ft. fluid; 4-ft. sand; W.O.S.R.
Donohoe O. & G. Co.'s No. 1-B W. B. Roseberry, 250 ft. S, 250 ft. E. C, Sec. 19-23-9 ..... Began drlg. Nov. 25; S.D. 104 ft.
Pat Hudson's No. 2 S. Gardner, 330 ft. N, 300 ft. E, C, Sec. 1-22-11 ..... Derrick.
Pat Hudson's No. 1 B. L. Slack, 330 ft. W, 330 ft. N, SE cor. SW, Sec. 36-23-11 ..... Rig up.
Jacob Luskin's No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 3-22-11 ..... W.O.S.R. 2,656 ft.
Magnolia Pet. Co.'s No. 1 J. P. Baker, 1,120 ft. S, 225 ft. E, NW cor. SW, Sec. 35-22-11 ..... Show gas; coring 3,284 ft.
Magnolia Pet. Co.'s No. 2 Denman, 100 ft. N, 160 ft. W, SE cor. NE NW, Sec. 1-22-11 ..... Drlg. 2,065 ft.
Merritt & Merritt's No. 1 Boucher (no check), SE SE, Sec. 17-23-11 ..... Rig up.
Sarepta Oil Co.'s No. 1 L. S. Gardner, 300 ft. S, 300 ft. W, C, Sec. 1-22-11 ..... W.O.S.R; 600 ft. fluid; T.D. 2,719 ft.

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**ARKANSAS**

**JOHNSON COUNTY—CLARKSVILLE**

Ark.-La. P. L. Co.'s No. 1 Patterson, 1,020 ft. S, 2,570 ft. E, NW cor., Sec. 14-10-24 ..... Drlg. shale 1,640 ft.

**NEVADA COUNTY**

Roy Davis et als' No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-12-20 ..... Derrick.

C F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Shut down.

**OUACHITA COUNTY—SMACKOVER**

L. H. Hamilton's No. 1 Arnold & Doyle, SE SE, Sec. 23-15-16 ..... Waiting on power to pump; T.D. 2,010 ft.

Southern Producing Co.'s No. 3-A Watts, 700 ft. E, 150 ft. N, SW cor. SE SW, Sec. 27-15-15 ..... Derrick.

Standard Oil Co.'s No. 11 Powell, 150 ft. S, 150 ft. E, NW cor. NE NW, Sec. 34-15-15 ..... Arranging to cmt. 6⅝-in. 2,006 ft.

J D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15 .. Set 6⅝-in. 2,085 ft; tested little oil and S.W; W.O; T.D. 2,115 ft

**OUACHITA COUNTY—STEPHENS**

Magnolia Pet. Co.'s No. 1 Grayson, C, Lot 30, NE SE, Sec. 21-15-19 ..... D.S. test 1½-ft. sand; 6 joints heavy oil; cmtd. 8⅛-in. 1,466 ft; T.D. 1,478 ft.

**UNION COUNTY—EL DORADO**

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 ..... Setting tubing; T.D. 2,210 ft.

Malloy & Co.'s No. 4 Goodwin, 300 ft. N, 300 ft. E, SW cor. NE NE, Sec. 36-17-16 ..... Rig up.

Malloy & Co.'s No. 3 Robertson, NE cor. S½ SW NE, Sec. 6-18-15 ..... Location.

Rice et als' No. 1 W. Ralty, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

Weisinger et als' No. 1 Lacy, 181 ft. S, 557 ft. W, NE cor. NW, Sec. 6-18-15 ..... Cmtd. 6⅝-in. 2,131 ft.

Weisinger & Ball's No. 1 Rogers, 1,014 ft. N, 150 ft. E, SW cor. E½ SW SE, Sec. 31-17-15 ..... Drlg. 1,820 ft.

**UNION COUNTY—SMACKOVER**

E. L. Champan's No. 2 Bradley, 720 ft. N, 330 ft. E, SW cor. Lot 3, NW, Sec. 2-16-16 ..... Derrick.

Lion Oil Ref. Co.'s No. 1 James, CWL, Lot 2, NW, Sec. 6-16-15 ..... T.A. 2,018 ft.

Root Refineries, Inc.'s No. 8 Calloway, 510 ft. S, 150 ft. W, NE cor., Sec. 4-16-15 ..... Drlg. plug 2,248 ft; T.D. 2,287 ft.

**EAST TEXAS**

**PANOLA COUNTY**

Ark.-La. P. L. Co.'s No. 11 Werner, 1,850 ft. S, 1,052 ft. W, NE cor. E. F. Mitcheson Sur. ..... Began drlg. Jan. 29; cmtd. 10-in. 203 ft; drlg. 930 ft.

Calatex O. & G. Co.'s No. 3 Caldwell, 243 ft. S, 1,034 ft. W, SE cor. John Womack Sur., in Jas. Shadoin Sur. ..... Began drlg. Dec. 28; cmtd. 10-in. 42 ft; D.S. test 1,067 ft; S.W. and show of gas; S.D; W.O; Nos. 1 and 2 drilled by M. A. Smith et al.

S. H. Gardner's No. 4 Rocquemore, 5,176 ft. E. 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Rigging up.

Magnolia Pet. Co's No. 2 G C. Tiller, Jane Thorpe Sur. .. O.W.D.D; drlg. lime 2,950 ft.

Magnolia Pet. Co.'s No. 6 G. C. Tiller, 393 ft. S, 1,990 ft. E, NW cor. Jane Tharp Sur. ..... Drlg. lime 3,030 ft.

Nat. Gas Prod. Co.'s No. 8 Roquemore, B. C. Jordan Sur.. Drlg. 3,475 ft.

Nemours Corp.'s No. 4 Brumble, 200 ft. N, 200 ft. W, SE cor. E. F. Mitcheson Sur. ..... Bailing to test 2,340 ft.

The Texas Co.'s No. 4 H. L. Brumble, 945 ft. E, 745 ft. N, SW cor., E. F. Mitcheson Sur. ..... Rig up.

D. Thompson's No. 4 Tiller, Jas. Story Sur. ..... Cmtd. 6⅝-in. 3,160 ft.

## WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 59)

**FRANKLIN PARISH**

Davis et als' No. 1 Moore, 600 ft. W, 200 ft. S, NE cor., Sec. 12-11-6 ..... S.D. 1,430 ft.

Evansville Inv. Co.'s No. 1 W. B. Welch, 945 ft. E, 511 ft. N, SW cor., Sec. 2-14-8 ..... Cmtd. 9-in. 1,105 ft.

Franklin O. & G. Co.'s No. 1 T. J. O'Brien, 300 ft. N, 300 ft. E, SW cor. NW, Sec. 17-15-9 ..... Cmtd. 15½-in. 208 ft.

**MOREHOUSE PARISH**

J P. White's No. 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 3,025 ft; W.O.

**NATCHITOCHES PARISH**

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 8 ft; S.D. for orders; T.D. 2,536 ft.

Nichols & Wilder's No. 1 Clark, 150 ft. W, 250 ft. N, SE cor., Sec. 10-10-8 ..... S.D. 2,110 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... Drlg. shale 1,600 ft.

**OUACHITA PARISH**

J. L. Bullock, trustee's No. 1 West Va. Lbr. Co., N½ NE, Sec. 25-18-5 ..... S.D. on account of high wtr; T.D. 2,700 ft.

**RAPIDES PARISH**

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e ..... S.D. for fuel 2,650 ft.

**RED RIVER PARISH**

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. E, NW cor., Sec. 32-14-10 ..... S.D. account high wtr. 1,550 ft.

LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.

**RICHLAND PARISH**

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5 ..... Derrick.

Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6 ..... Waiting orders; T.D. 2,679 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6 ..... Tested S.W; W.O. 2,477 ft.

Austin & McDonald's No. 4 Millsaps, NW cor. Sec. 16-17-6. Location.

Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6 ..... Derrick.

W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7 ..... Derrick.

Industrial Gas Co.'s No. 1 T. R. Hodge, 3,259 ft. E, 1,320 ft. S, C, Sec. 7-16-7 ..... Fishing 3-in. drill stem; T.D. 2,874 ft.

Industrial Gas Co.'s No. 1 A. T. Davidson, 1,350 ft. S, 916 ft. E, NW cor., Sec. 6-16-7 ..... S.D; W.O. 2,762 ft.

Industrial Gas Co.'s No. 1 Ruston Drlg. Co., 1,930 ft. S, 1,955 ft. E, NW cor., Sec. 7-16-7 ..... S.D; W.O. 2,636 ft; igneous rock.

Richland O. & G. Co.'s No. 1 Singleterry, 1,930 ft. N, 660 ft. W, SE cor., Sec. 20-18-7 ..... Cmtd. 9-in. csg. 970 ft.

Shreveport Contractors, Inc.'s No. 1 Buie, 600 ft. E, 400 ft. N, SW cor., Sec. 17-15-7 ..... S.D; shale and boulders 2,527 ft.

**SABINE PARISH**

Bridges-Clark Oil Co.'s No. 1 Gay et al, 300 ft. S, 300 ft. E, NW cor. NE NW, Sec. 3-9-12 ..... Drlg. 1,658 ft.

Bridges-Clark Oil Co.'s No. 1 McWilliams, 330 ft. S, 330 ft. E, NW cor., Sec. 30-10-11 ..... Began drlg. Jan. 29; cmtd. 10-in. 110 ft; drlg. 225 ft.

G. M. LeGrand's No. 1 A. C. Haley, 1,020 ft. N, 3,300 ft. E, NW cor., Sec. 6-7-12 ..... Cmtd. 6⅝-in. csg. 2,136 ft.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12 ..... Drlg. 2,205 ft.

A. H. Tarver's No. 2 Long Bell, 800 ft. N, 800 ft. W, SE cor. SW, Sec. 18-8-13 ..... Bailed dry; small show gas; S.D. 1,967 ft.

**TENSAS PARISH**

A. R. Willis et als' No. 1 Curry, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 600 ft.

**UNION PARISH**

Bahan & Bahan's No. 1 J. West, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 33-23-2 ..... Drlg. 1,820 ft.

Interstate Nat. Gas Co.'s No. 26 fee, 2,970 ft. S, 660 ft. E, NW cor., Sec. 33-23-3 ..... Drlg. 1,896 ft.

Fred Stovall's No. 1 Stovall, 1,320 ft. E, 350 ft. N, SW cor., Sec. 32-23-4 ..... Rig up.

**WEBSTER PARISH**

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor., Sec. 27-18-8 ..... Began drlg. Nov. 10; cmtd. 10-in. at 62 ft.

Paul C. Warren et als' No. 1 Martin, 305 ft. N, 212 ft. E, SW cor., Sec. 20-20-9 ..... S.G. top Nacatoch 1,759 ft; S.D. 1,912 ft.

**WEST CARROLL PARISH**

H. L. Hunt, Inc.'s No. 1 R. E. Brown, NW cor. NW SW, Sec. 4-21-11 ..... Rig up.

Palmer Corp.'s No. 1-A Marston, 1,320 ft. S, 89 deg., 35 min. W, 1,320 ft. of SE cor., Sec. 11-19-10 ..... Cmtd. 6⅝-in. 2,390 ft.

**ARKANSAS**

**ASHLEY COUNTY**

Ark. Fuel Oil Co.'s No. 1 Crossett Lbr. Co., 330 ft. E, 330 ft. S, NW cor., Sec. 1-19-7 ..... Drlg. hard sandy lime 3,148 ft.

**CLEBURN COUNTY**

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10 ..... Drlg. sand and shell 1,265 ft.

Donnelly-Craver et als' No. 1 Doniphan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... Began drlg. Dec. 30; S.D. 60 ft. account cold weather.

**COLUMBIA COUNTY**

Parker et als' No. 1 Franks, 330 ft. S, 330 ft. W, C. Sec. 25-19-22 ..... S.D. 2,835 ft.

Williams et als' No. 1 Fullenwider, 200 ft. N, 600 ft. E, SW cor. NE SE, Sec. 12-17-22 ..... Rigging up.

**DREW COUNTY**

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S, NE cor., Sec. 35-13-5 ..... S.D. repairing rig 1,810 ft.

**FAULKNER COUNTY**

Gold Creek O. & G. Co.'s No. 2 Stermer, SE cor. NW SE, Sec. 17-4-13 ..... Began drlg. Dec. 12.

**GARLAND COUNTY**

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C. Sec. 1-3-19 ..... Drlg. sand 3,394 ft.

**GRANT COUNTY**

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... S.D. 1,400 ft.

**LITTLE RIVER COUNTY**

A L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 .... Drlg. 2,175 ft.

McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE, Sec. 12-13-28 ..... S.D. 1,965 ft.

**LOGAN COUNTY**

M. W. Greeson's No. 1 C. S. Parke, 330 ft. N, 330 ft. W, SE cor., Sec. 21-8-24 ..... Location.

**MADISON COUNTY**

Phillips Pet. Co. and F. S. Craver's No. 1, C, Sec. 11-14-28. Tested 250,000 ft. gas 63 ft; drlg. 1,461 ft.

**OUACHITA COUNTY**

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-17 ..... O.W.D.D; was Floucher et als' No. 1 Buck; abd. Oct. 9, 1929. dry at 2,475 ft; leases expired; drlg. 2,615 ft.

Artex Oil Co.'s No. 1 M. V. Smith, 330 ft. S, 330 ft. E, NW cor. SE NW, Sec. 21-15-17 ..... S.W. 3,077 ft; drlg. 3,166 ft.

Copenhaven et als' No. 1 Warnick, Sec. 2-15-17 ..... S.D. 2,190 ft.

Kobler & Erickson's No. 1 Rumph & Tyson, 300 ft. N, 300 ft. W, SE cor., Sec. 13-15-15 ..... Set 10-in. at 98 ft.

C. H. McDonald's No. 1 Fogle, Sec. 13-14-16 ..... S.D. 2,301 ft; W.O.

A. P. Smith et als' No. 1 Reynolds, C SW NW, Sec. 21-14-17 ..... Coring 1,689 ft.

**PIKE COUNTY**

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W, NE cor., Sec. 25-5-26 ..... S.D; funds; T.D. 718 ft.

**POPE COUNTY**

Ark.-La. Pipe Line Co.'s No. 1 Harms, 622 ft. S, 628 ft. W, NE cor. NE NW, Sec. 22-9-21 ..... Cmtd. 8-in. 300 ft.

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Reaming 2,100-65 ft; T.D. 2,500 ft.

**PRAIRIE COUNTY**

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E, 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Drlg. paleozoics 2,816 ft.

**ST. FRANCIS COUNTY**

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW, Sec. 28-4-1 ..... S.D; funds; 300 ft.

**UNION COUNTY**

Al-Cal Oil Corp.'s No. 1 Harvey, 660 ft. W, 300 ft. S, NE cor. SW SE, Sec. 1-17-16 ..... Arranging D.S. test; 14-ft. sandy shale 2,196 ft.

Bredham et als' No. 1 Craig, SW cor. NW NE, Sec. 6-18-15 ..... Drlg. 2,744 ft.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .. T.A. in red beds; T.D. 4,506 ft.

S. Y. Dorfman's No. 1 Simmons, 150 ft. N, 150 ft. E, NW SW, Sec. 13-16-15 ..... Tested S.W. 2,061 ft; S.D; W.O. 2,081 ft.

O. W. Estes' No. 1 Felsenthal, 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 2-18-15 ..... Pulled liner; S.D; W.O. 2,230 ft.

O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW cor. SW, Sec. 35-17-14 ..... C.O; 800 ft. oil 2,230 ft; S.D; W.O.

Federal Pet. Co. and Union Saw Mill Co.'s No. 1 fee, 330 ft. N, 330 ft. W, SE cor. NW NE, Sec. 9-18-13... Derrick.

Lion Oil Ref. Co.'s No. 1 Ballard, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 10-18-13 ..... Rig up; W.O.

Marine Oil Co.'s No. 1 Simmons, 200 ft. N, 200 ft. W, SE cor. SE NW, Sec. 10-18-13 ..... Location.

Marine Oil Co.'s No. 2 Simmons, 300 ft. N, 300 ft. E, SW cor, SE NW, Sec. 10-18-13 ..... Location.

Marine Oil Co.'s No. 2-B Winn, 200 ft. S, 200 ft. E, NW cor. NW SE, Sec. 10-18-13 ..... Location.

Johnson-Gummer Co.'s No. 1 Cargile, Sec. 4-18-15 ..... O.W.D.D; arranging to deepen; T.D. 3,341 ft; dry and abd. Oct. 2, 1929.

Stark et als' No. 1 Ainsworth, NE cor. NW NE NE, Sec. 8-19-16 ..... Washing to bottom; T.D. 2,090 ft.

**VAN BUREN COUNTY**

Glenn Cole et al, trustee's No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

**WASHINGTON COUNTY**

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32 .... S.D. repairing pump; T.D. 550 ft.

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE, Sec. 12-16-32 ..... Spudded Sept., 1928; S.D. 140 ft; resumed drlg. Aug. 25; U.R.; T. D. 150 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Trying to kill wtr. flow 2,150 ft hard sand showing oil 1,637-40 ft.

Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32 ..... U.R. 8-in. to T.D. 1,500 ft.

**WHITE COUNTY**

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8. Cmtd. 5 3-16-in. 3,500 ft; drlg. 3,605 ft.

**EAST TEXAS**

**CAMP COUNTY**

Rogers et als' No 1 Enfelt, R. M. Montgomery Sur. .... Tested dry 1,870 ft; S.D. 1,920 ft.

# STOP

# this thief of Profits

**IF rapid abrasion on your tools is slowing up your drilling, stop this trouble with Blackor...the super abrasion-resistant facing that keeps tools sharp...longer. Blackor is harder than any known material...except the diamond...and protects the cutting surface of a tool with a solid armor that resists abrasion from 3 to 5 times longer. This eliminates frequent pulling of the string to exchange dulled bits for sharp ones, resulting in more hole...in less time...and at less cost.**

**Blackor reduces drilling costs in other ways. It can be quickly applied...usually at the rate of 100 square inches per hour and no previous experience is necessary. It is melted on by the carbon electric arc at a power cost of 10 cents per hour...as compared to a cost of $1 an hour for acetylene welding. This saving is still further increased in foreign fields and other fields at a distance from supplies of oxygen and acetylene as the portable electric welding machine used for Blackor application can be made available at low cost anywhere. Blackor gives an exceptional bond with the steel of the tool. This prevents chipping or breaking off with its attendant loss of time and expense to pull the string for replacement.**

**Send for a 10-lb. trial order and test Blackor for yourself. Or our engineers will be glad to show you the proper application of Blackor to your abrasion problems.**

**Ask for Catalog**

*Patent No. 1,613,942*
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*Other Patents Pending*

PROTECTED BY AMERICAN PATENT PROTECTION CORPORATION

Blackor is granular in form. One ounce generally covers from 4 to 6 square inches, one layer. With a plurality of layers, the amount decreases. In general practice, 3 layers are applied to the cutting side of the tool and one layer for backing up.

**BLACKOR COMPANY**

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*New York Export Office:* 39 Cortlandt Street
*Tulsa, Oklahoma Office:* 410 Thompson Bldg.

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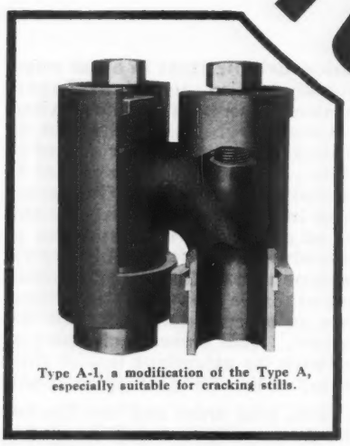
The Super Abrasion-Resistant Facing

# There is a SECO RETURN BEND to Meet Your Requirements

Above—Seco Type A Return Bend, the original anti-friction bend. The method of locking the fitting to the tube affords advantages found in no other bend.



Type A-1, a modification of the Type A, especially suitable for cracking stills.

Type Y, an improved rolled-in fitting, designed for any service.

SUPPLEMENTING the general purpose, bolted-on Type A Seco Return Bend, Types A-1 and Y are offered especially for cracking still duty.

Type A-1 employs the time-proved split ring for locking the bend to the tube, which eliminates all tube rolling. It is a perfect stream line return bend—can be installed for a fraction of the cost of rolled-in fittings and can be easily removed for tube replacement, without disturbing the adjacent tubes.

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*Complete information will be furnished promptly upon request.*

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LOCOMOTIVE FINISHED MATERIAL CO.
Atchison, Kansas

**RED RIVER COUNTY**

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. .... Drlg. 2,050 ft.
Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. .... S.D. 1,862 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edward Dean Sur. .. S.D. 2,000 ft.

**SHELBY COUNTY**

Benedum & Trees Oil Co.'s No. 1 McCann, D. G. Green Sur. ..... Drlg. 2,045 ft.
Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur. .... S.D. for orders 3,004 ft.

**MISSISSIPPI**

**ALCORN COUNTY**

Alcorn Pet. Co.'s No. 1 Matthews, SE cor. Sec. 14-2s-7e.. Arranging to shoot 2,520-60 ft; T. D. 2,735 ft.

**CHICKASAW COUNTY**

Hightower & Golson's No. 1 Flemming, NE cor. Sec. 20-13-3 ..... Driving 8¼-in. through quicksand; T.D. 1,252 ft.

**HINDS COUNTY**

Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW, Sec. 23-16-5 ..... Set 12½-in. 30 ft; S.D. 1,050 ft.
Love et als' No. 1 Mayes, Sec. 2-5-1e ..... Drlg. 6⅝-in. plug; T.D. 2,461 ft.
Mrs. Reeder et als' No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... C.O.; T.D. 2,905 ft.

**HUMPHREYS COUNTY**

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft; S.D.

**LAUDERDALE COUNTY**

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E. NW cor. NE, Sec. 2-7-16 ..... Set 8¼-in. 2,792 ft; T.D. 2,816 ft; sand 2,809-14 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-13 ..... Arranging D.S. test 2,681-93 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 ..... Derrick.

**LAFAYETTE COUNTY**

Banks-Goode et als' No. 1 May, 113⅓ rods S, 26 rods E. NW cor. SW, Sec. 22-10-1w ..... Derrick.

**LINCOLN COUNTY**

Lincoln O. & G. Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6. S.D; W.O. 2,221 ft.

**MONROE COUNTY**

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 2,912 ft; bailer lost in hole.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Set liner 2,325 ft; to stop caving; arranging test; gas show 2,387 ft; T.D. 3,045 ft.
Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... Driving 12½-in. 30 ft.

**RANKIN COUNTY**

Gulf Ref. Co.'s No. 1 Rainey, NW NW, Sec. 13-5-1e .... Location.

**WARREN COUNTY**

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15 ..... Waiting for 6-in. to set; over 2,350 ft. stuck; D.S.; T.D. 2,475 ft.

**YALOBUSHA COUNTY**

Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C, Sec. 14-11-4 ..... Drlg. Tuscaloosa gravel 2,427 ft.

**YAZOO COUNTY**

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 ..... Coring 3,411 ft.

**TENNESSEE**

**DECATUR COUNTY**

Chester County Oil Co.'s No. 1 Montgomery ..... Cmtd. 6-in. 1,040 ft; drlg. hard gray lime 1,165 ft.

**ALABAMA**

**LAMAR COUNTY**

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Drlg. hard lime 1,730 ft.

**LAUDERDALE COUNTY**

A. D. Morton et als' No. 10 O'Neal estate, Sec. 8-2s-13w.. Rigging up cable tools.

**MARION COUNTY**

Hobson et als' No. 1 John Clark, SE, Sec. 29-11-14 .... Derrick pattern.

**WASHINGTON COUNTY**

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D; S.W. flow at 1,460 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Fishing bailer; T.D. 881 ft.


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The BRIDGEPORT MACHINE CO.
GENERAL OFFICES AND FACTORY, WICHITA, KANSAS
Branches Throughout the Oil Fields


## DEFICIENCY CHART GIVES RATIO OF GAS USED

(Continued from Page 88)

varies approximately and, indeed, closely to the number of degrees that the mean temperature is less than 65 degrees. If the mean temperature on any day is 60 degrees, then the "Degree Day Deficiency" for that day is five degrees, and if on another day, the mean temperature is 45 degrees, then the "Degree Day Deficiency" is 20 degrees, and the heating load on the latter day would be to that of the former day as 20 is to 5, or about four times as great.

Gas companies are now constructing charts that show the degree day deficiency for each day of the year and, also, the total cumulative "Degree Day Deficiency" for the 30-day bill period ending on each day in the year. If a customer has a high bill for any period, he may—by noting the day his meter was read—pick from this chart the total Degree Day Deficiency for that period.

The total Degree Day Deficiency for a year in Houston is rarely over 1,400, whereas the total D. D. D. for one month may be over 590, or in that one month the househeating gas consumption would be over one-third that for the whole year.

The average customer's figure given here will not be correct for any but the average customer, and gas costs will be above or below this figure, according to the size of the home and other variables, but the purpose here is to show that the amount of gas burned during any period for house heating is up to the weather man, and that by looking on a Degree Day Deficiency chart for your billing period, you can find what kind of hand he dealt you for the month. If your friend with a similar house has a smaller bill, look up his Degree Day Deficiency for his billing period, and if he has fewer D. D. D.'s than you, you may rest assured that he had more during the prior month, or will have more during the month to come. The temperature is the same for all in Houston and if a cold snap is not included in one of your bill periods, or in one of his, you will both have the same number of Degree Days at the end of the winter.

## CENTRAL WEST FIELDS

(Continued from Page 76)

leum Exploration Co. These two large concerns are making a deep test to the Trenton on the Young heirs' farm, 2,000 feet from the gas well on the Mary E. Shirley farm. The Young test started with a 16-inch hole. Locations have been made for two additional deep tests by the same companies on the F. and L. Deckard farm, and also on land owned by the State Life Insurance Co., all in Monroe County.

The Shell Petroleum Corp. has leased a block of approximately 20,000 acres in Decker and Johnson Townships, Knox County, south of Vincennes, and core tests are to be made in the two townships. Tests are now being made on the Heine Kramer farm, near St. Thomas, although little can be done at present as the Wabash and White Rivers are on a rampage and roads are blocked by heavy snow drifts.

### ILLINOIS

Only one completion was made in any of the Illinois fields and that was in the Dupo Field, in Sugar Loaf Township, St. Clair County, where Hancock, Hewer and Taft drilled a test on the Minnie Hoffstetter farm, Section 2, which was dry from 849-80 feet. Many of the drilling wells in this great shallow sand area are shut down on account of weather conditions and the same prevails over all producing fields in the State. In the old Illinois Field, especially in the Allendale Field of Wabash County, the Wabash River is a raging stream with ice piled mountain high at various spots along the stream. It will be weeks before much can be accomplished in drilling operations.


A Differential Regulator
FOR MIXING GASES

IN THE conservation of our natural gas by mixing with coke-oven gas, this regulator is destined to have a place of importance.

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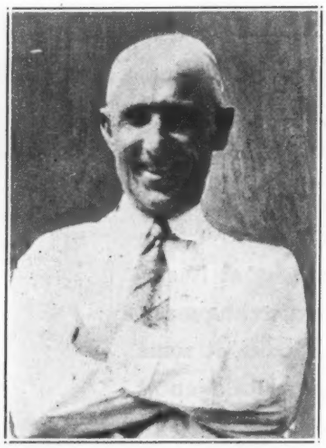
# MEN KNOWN IN OILDOM



**William H. Case**

William H. Case, production superintendent for the southern division of the Gypsy Oil Company, was born in Limestone, N. Y., in June, 1876, just a year after the first well had been drilled in the Bradford Field in Pennsylvania, 12 miles south of his home town. His first job, after he left school at the age of 16, was in that field with the Buffalo Oil Company, looking after some pumping wells. A year later he got a job with the Emery Oil Company as a tool dresser and for the next 15 years he worked on every kind of production job in the Bradford Field.

In 1907, while in the employ of the South Penn Oil Company, Mr. Case decided to strike out for the Indian Territory country. Accompanied by Mrs. Case and their young son Philip, he settled first in Ramona, going to work for the Matson Oil Company on cleaning out tools.

In 1910, when the Matson Oil Company was purchased by the Gypsy, Mr. Case went with the new organization in charge of one of its leases. In 1912 he was sent to Glennpool and for four years looked after the company's drilling and production in that pool. Then he was transferred to Yale where the Gypsy had started development work. From Yale it sent him to Eldorado, Kans., and he was stationed there during the boom in that area. Four years later he was transferred to Burbank.

Mr. Case was promoted in 1922 to the position of superintendent of the southern division with headquarters at Tulsa.

# PERSONAL PARAGRAPHS

C. A. Gustafson, of the Gustafson Brothers Oil Company, has left Chicago for an extended stay in Florida.

* * *

D. L. Ihrig, special agent of the Union Oil Company of California at Phoenix, Ariz., has been appointed assistant district manager of sales for that district.

* * *

Fred Green, president of United Oils, Ltd., of Calgary, is flying from Spokane to Guadalajara, Mexico, where he will inspect gold and silver properties.

* * *

W. R. Capron, assistant to the president, Sinclair Crude Oil Purchasing Company, has been confined to St. Johns Hospital, Tulsa, suffering from a complication of diseases.

* * *

R. S. (Uncle Dick) Gray, assistant to the superintendent of the land department of the Prairie Oil & Gas Company, is dangerously ill at his home in Tulsa, having suffered paralysis of his arm and shoulder.

E. Holman, assistant to E. J. Sadler, Standard Oil Company of New Jersey, has been visiting eastern Venezuela.

* * *

Paul R. Yewell, a consulting geologist, with offices at San Angelo, Tex., has been visiting California oil fields during the past several weeks.

* * *

W. D. Lundy and E. A. Freeman, Alberta oil operators, have returned to Calgary from California where they have been spending the winter.

* * *

David E. Day, refinery engineer of the Richfield Oil Company, has returned to the home office at Los Angeles following a business trip to New York.

* * *

H. H. Cross, of the H. H. Cross Company, of Chicago, has left for the Southwest and California where he will enjoy his annual winter vacation at San Diego.

* * *

R. E. Witty, scout for The Texas Company, stationed at Pecos City, Tex., spent a couple of days on business at the company's headquarters in Fort Worth, Tex.

* * *

George S. Walden, in charge of the Standard Oil Company of New Jersey's East Indies interests, at The Hague, has returned to Europe after a visit to the United States.

* * *

William M. Keck, president of the Superior Oil Company, has returned to Los Angeles following a personal tour of the company's holdings in the Kettleman Hills Field of Kings County.

* * *

E. B. Montgomery, manager of the industrial lubrication oil sales department of the Associated Oil Company, was in Los Angeles recently but has returned to the home office in San Francisco.

* * *

Clarence E. Olmsted, vice president of The Texas Company of California, has returned to Los Angeles accompanying President R. C. Holmes and officials of the parent company to California.

* * *

O. D. Strong has been appointed district sales manager of the Reading Steel Casting Company for the Tulsa district comprising the States of Oklahoma and Kansas, with headquarters in Tulsa.

* * *

Right Honorable Arthur Meighen, of Toronto, formerly premier of Canada, and E. Gerald Hanson of Montreal, have been elected directors of the Home Oil Company of Vancouver, British Columbia.

* * *

Edgar Kraus, geologist in charge of West Texas operations for the Atlantic Oil Producing Company, with headquarters at San Angelo, has been spending a few days in the company's division offices at Dallas.

* * *

W. P. Clark, manager of petroleum industry sales for the Sherwin-Williams Company, of Kansas City, Mo., was in Tulsa and other Mid-Continent points during the past week in the interests of his company.

* * *

Leland S. Winter, land man for the Atlantic Oil Producing Company, at San Angelo, Tex., and Miss Nesbitt of Wortham, Tex., were married at the latter place and are spending their honeymoon in New Orleans, La.

* * *

D. C. DeVito, independent operator of Roswell, N. Mex., is spending a few days in Fort Worth, Tex., on business. He reports New Mexico as being rather dull in the oil industry, outside of the new wells in Lea County.

* * *

Harold Kane Greenleaf, land man for the Phillips Petroleum Company, San Angelo, Tex., and Miss Sixie Hall of the same city, were married February 1 in San Angelo, and are spending their honeymoon at Havana, Cuba.

* * *

H. L. Montgomery, manager of Cities Service Gas Company, Bartlesville, Okla., was named on the program committee for the convention of the natural gas department of the American Gas Association at New Orleans, La., in May. The appointment was made by H. C. Morris, chairman of the department.

Announcement is made by the Tide Water Oil Company of the appointment of L. C. Quackenbush and J. D. Collins as assistant general sales managers of that company and of the appointment of H. F. Parsons as assistant to the vice president in charge of sales, Edward L. Shea.

* * *

Officers of the Woodley Petroleum Company, of Shreveport, La., have been elected as follows: J. R. Parten, president and general manager; R. H. Deas and Frank Alberts, vice presidents; J. R. Pope, secretary-treasurer; P. J. Slimer, assistant secretary; and E. G. Palmer, chairman of the board of directors.

* * *

John F. Hornbeck, former scout for the Vacuum Oil Company at Midland, Tex., has been transferred to San Antonio, Tex., in charge of the land department for the Southwest Texas division. Joe Hemphill, formerly with the Continental Oil Company, has taken Mr. Hornbeck's place with the Vacuum Company at Midland.

* * *

Raymond V. Delehanty, general superintendent of the W. F. Kinney interests, with district offices at Wichita, Kans., is making an inspection tour through the fields of West, Southwest and East Central Texas, looking over the new areas. His company was one of the active operating companies in the Ranger district during its boom.

* * *

Superintendent A. H. Wagner, of Petroleum Exploration, at Lexington, Ky., has announced that Fred E. Manning has been placed in charge of the Warren County district. District Foreman Bert Stickler, who formerly was located at Bowling Green, has been given charge of the new production in the Tri-County Field at Owensboro.

* * *

An exchange of positions by S. P. Gates and C. P. Conover, of the oil production division of the Empire Companies, has been announced. Mr. Conover, formerly of the Kansas division, now is foreman of the Seminole district and Mr. Gates, formerly of the Seminole district of the Oklahoma division, is foreman of the Kansas division with headquarters at Oil Hill.

* * *

Dr. A. E. Dunstan, chief chemist of the Anglo-Persian Oil Company, George H. Coxon, manager of the refineries branch, and W. C. Mitchell, general manager at Llandarcy, have been elected to the board of National Oil Refineries, Ltd., the refining subsidiary of the Anglo-Persian Oil Company, Ltd. These appointments are indicative of the policy of the Anglo-Persian Oil Company in nominating technical experts to the boards of its subsidiary companies.

* * *

R. J. Riggs, chief geologist and head of the land department for the Indian Territory Illuminating Oil Company and Delmar Oil Company, with headquarters at Bartlesville, Okla., has been spending much time in the San Antonio, Tex., territory, and lately made a trip to the West Texas offices of the latter company. W. L. Day, geologist of the company, has been transferred from Amarillo to San Antonio due to much new activity in the latter area.

* * *

The Indian Territory Illuminating Oil Company is reorganizing its production department, and W. P. Sutton, superintendent of the southern Oklahoma district, is now superintendent of the South Oklahoma City district, with C. O. DeVerse, formerly assistant to Mr. Sutton, as district superintendent of the southern Oklahoma district. John J. Lawry, formerly superintendent of the Seminole district, is now superintendent of the North Oklahoma City district. G. W. Jennings is now superintendent of the Seminole district.

* * *

R. J. Kelly, formerly manager of the Home Oil Company, has been appointed assistant manager of the distributing division of the Shaffer Oil & Refining Company. E. J. Gregory has been placed in charge of sales promotion work. T. B. Murphy, formerly fuel oil manager, has been made manager of the northern division. C. J. Foster is in charge of plant and motor equipment. F. R. Seleine has been transferred to the wholesale tank car department. L. P. Craig is now credit manager, and A. L. Treasher has been appointed auditor.

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Ample clearance allows a free flow of the fluid around bit head and permits the continuous cutting action of the cones.

Few parts insures ease of assembly and great strength.

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Cutting teeth of cones are so spaced that they do not track — making possible a greater speed in making hole.

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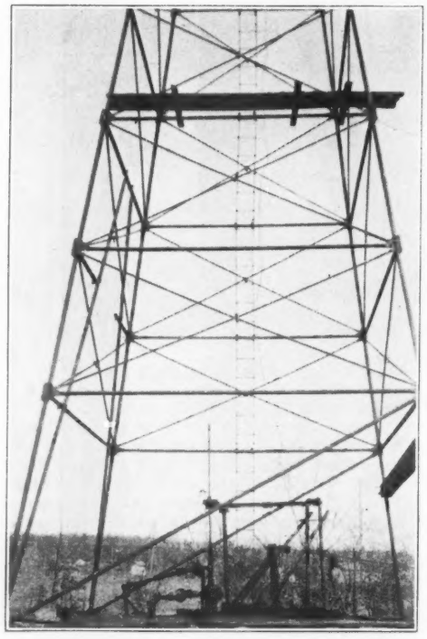
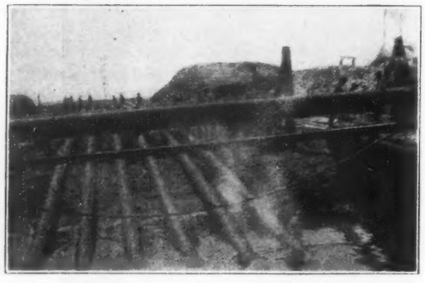
*On Well Casing* The following report tells its own story:
"Mr. M——— reported that one string of 2300 feet of ten-inch casing coated with NO-OX-ID had been run in three different wells. The threads were in perfect condition. This is unusual, particularly in salt water present in these wells. Casing is still in good condition and ready for another well. He was highly pleased."





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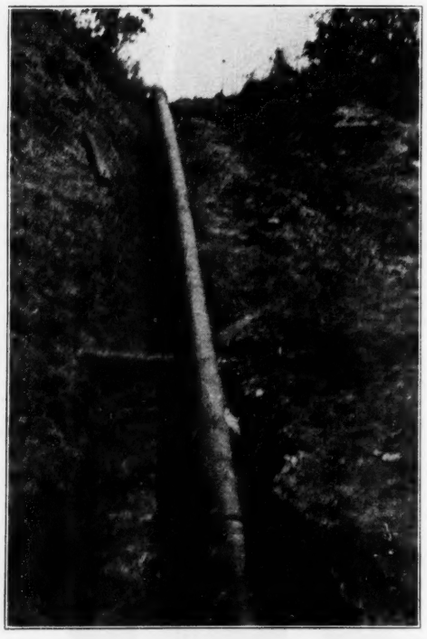
With this combination we are able to meet any condition.

Dearborn Service men are in the field servicing pipe line jobs. Inquiry invited.



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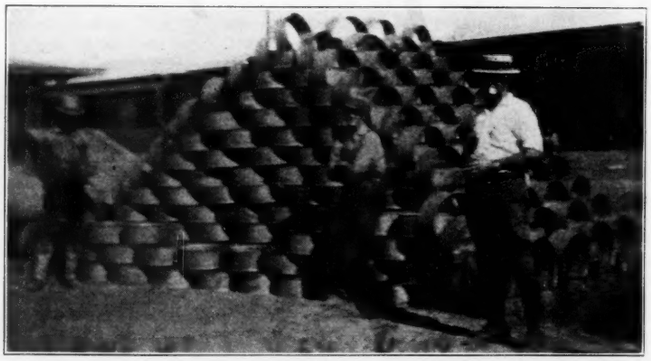


## KENTUCKY-TENNESSEE

(Continued from Page 76)

sequence. What the shut-down arrangements failed to do the weather helped to accomplish. Resumption of drilling and full pumping of wells will require several weeks under favorable weather conditions to reach the capacity of runs before activities were halted."

**New Completions**

In Ohio County, Whittaker Pool, the Ohio Oil Co.'s No. 13 in the southeast corner of the W. B. Kelley 105 acres, produced an initial of 40 bbls. In the Bell's Run area, James C. Ellis found a dry hole in No. 1 on the Greer heirs 40 acres, while No. 2 proved a producer good for 6 bbls. D. J. White and others' No. 5 on the Earnest Bickett 90 acres was a dry hole. Dixon Oil Co.'s No. 1 Frank House farm was also a duster, and the Louisville Gas & Electric Co.'s No. 4 on the R. A. Miller 195 acres, near Waynesville, was a failure.

In Daviess County, the Petroleum Exploration Co.'s No. 3 on the J. M. Clark farm in the Utica Field produced an initial of 80 bbls. Eastern Gulf Oil Co. has a dry hole in No. 3 on the Ethel Chapman 82 acres in the Jones Pool, southwest of Whitesville, and the Cumberland Petroleum Co. hit a dry spot on the J. McCormick farm in the Utica Pool.

In Hopkins County, the Missouri-Kansas Pipe Line Co. brought in an excellent gas well in No. 3 on the Lester farm, estimated around 3,500,000 feet, open flow.

In the eastern part of Kentucky, in Perry County, J. T. Justice drilled a gas well near Hazard, estimated at 5,000,000 feet. The gas will be piped into Hazard.

In Jackson County, the Petroleum Exploration Co.'s No. 3 on the Wolffork farm, failed to develop either oil or gas. No. 4, same farm, is starting.

Petroleum Exploration Co. has a gas well good for 187,000 feet on the Lillie Peters farm in Clay County, and same company's test on the Gilbert Baker farm, same county, showed 200,000 feet open flow.

**Field Pickups**

Petroleum Exploration Co. is drilling No. 4 on the J. M. Clark farm, in the Utica Pool of Daviess County, also No. 1 on the Edward Bennett farm as well as No. 1 on the J. S. Huff farm.

Cumberland Petroleum Co. is drilling a second test on the J. McCormick farm, in the Utica Pool of Daviess County. No. 1 was reported as dry.

Chester Oil Co. is drilling No. 3 Zach King 65 acres in the Bell's Run Pool, northwest of the Ambrose Pool in Ohio County.

Willard Rouse Jillison, director and state geologist of Kentucky, has just taken off the press a new map of Kentucky showing oil and gas fields, oil and gas pipe lines, value of production of both oil and gas and other information of great value to the public interested in the oil and gas industry.

## EASTERN FIELDS

(Continued from Page 78)

ty, the Peoples Natural Gas Co. has drilled its test on the Patrick Taylor farm through the Bayard sand. It is dry in this and all upper formations. Greene County has more test work underway than any other county in the Keystone State. In Wayne Township, D. L. Shafer & Co. are drilling on the William Jackson farm. In Perry Township, the Philadelphia Co. has shut down for orders on the Enos Moore farm. In the same township, the same company is drilling on the G. C. Johnson farm. In Wayne Township, H. D. Freeland & Co. are drilling on the William Kent farm. In Whitley Township, the Philadelphia Gas Co. is drilling on the E. M. Rose farm. In Springhill Township, the Cameron Oil & Gas Co. has a rig up on the Margaret Caseman farm. In Jackson Township, the Carnegie Natural Gas Co. is drilling on the C. N. Rinehart farm. In Aleppo Township, the Manufacturers Light & Heat Co. has started to drill on the B. R. and Alice Chambers farm. In Center Township, George Drake & Co. have a rig up on the Dean Piatt farm.

In East Finley Township, Washington County, the Natural Gas Co. of West Virginia has completed a second test on the William and E. McKoen farm. It is a 2-bbl. pumper. In the same township, the same company has completed a test on the R. Stoller farm. It is a 10-bbl. pumper.

In Richhill Township, Greene County, the Manufacturers Light & Heat Co. completed No. 3,397 on the Elizabeth and James Scott farm. It is a gasser in the Fifth sand. In Brush Creek district, Butler County, Burton & Co. have a gasser on the Beasley Wise farm.

In East Finley Township, Washington County, the Natural Gas Co. of West Virginia has a 5-bbl. pumper at a test on the John Finley farm. In the Ingomar district, Allegheny County, Beeler & McEvoy have a very light pumper at old No. 1 on the John Deitz farm, drilled down. In the Duff City district, the same parties have a light pumper on the John Cole farm. In the same district, W. H. Boyd has a 5-bbl. pumper at No. 3 on the John Logan farm. C. C. Schuck's test on the Walter Neely farm is a very light pumper, and Harbison & Co. have a gas well, showing a little oil on the Eckart farm.

## ADVANTAGES OF HEATING BY GAS DEMONSTRATED

(Continued from Page 88)

insistence of the association that all boilers and furnaces should be tested under these 'Requirements.' This assures the public and the heating trade of equipment that is in compliance with basic national requirements of safety.

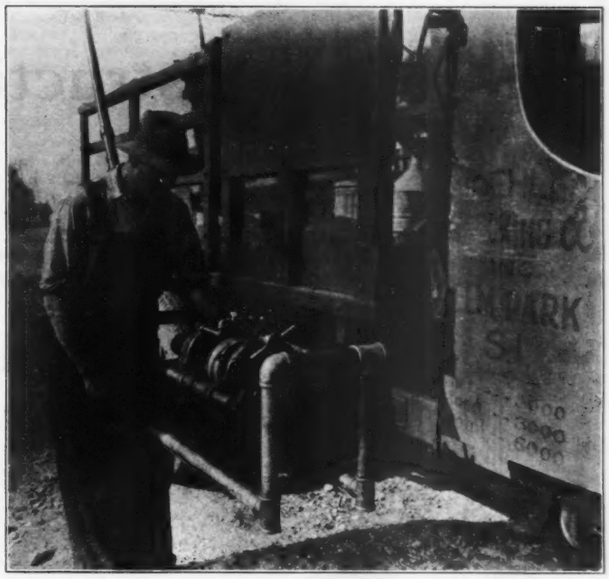
"Factory managers are learning what housewives found long ago, that gas is an ideal fuel, because it is clean, is always available, is easily regulated, is convenient, and, other advantages considered, is economical. The fact that it is a clean fuel makes it possible for use in processes where cleanliness is essential to good products.

"With gas no space is needed for storing fuel and there is no cost of ash removal. No insurance is necessary on fuel stock. Another important advantage to the manufacturer using gas is the fact that, not only does he have no money tied up in a fuel supply, but he pays for his fuel after he uses it. Because gas may be so easily and automatically controlled it reduces the necessary man power and by eliminating much of the drudgery from work tends to make the employes more contented.

"Today over 20,000 industrial processes are known in which gas plays an important part. The popularity of gas fuel in the coffee industry is reflected in the fact that out of some 1,200 coffee roasters in the United States 88 per cent are using gas. Automobile manufacturers are among the largest users of gas; 75 per cent of the heat treatment of metals being performed with this fuel. The ease with which uniform temperatures and furnace atmospheres can be obtained with gas and the fact that this may be done automatically are causing this fuel to be used in the steel industry more extensively each year.

"Sales of natural gas in 1928 aggregated approximately 1,600,000,000,000 cubic feet, an increase of 8 per cent over the previous year. In the last 22 years sales have advanced 330 per cent. An increasing number of manufacturers are turning to gas fuel because of its cleanliness, ease of control and tremendous saving in labor. There are approximately 16,000,000 gas customers at present in the United States. In the short space of time that gas has been in use, its development has been nothing short of miraculous."

Guests at the meeting were P. L. Mulkin, J. G. Montgomery, A. C. Burwell and Blair Fuller of Oil City; Rotarians John A. Henderson, Robert T. Anderson, E. Barrow and Harvey Watkins of Franklin, Pa.

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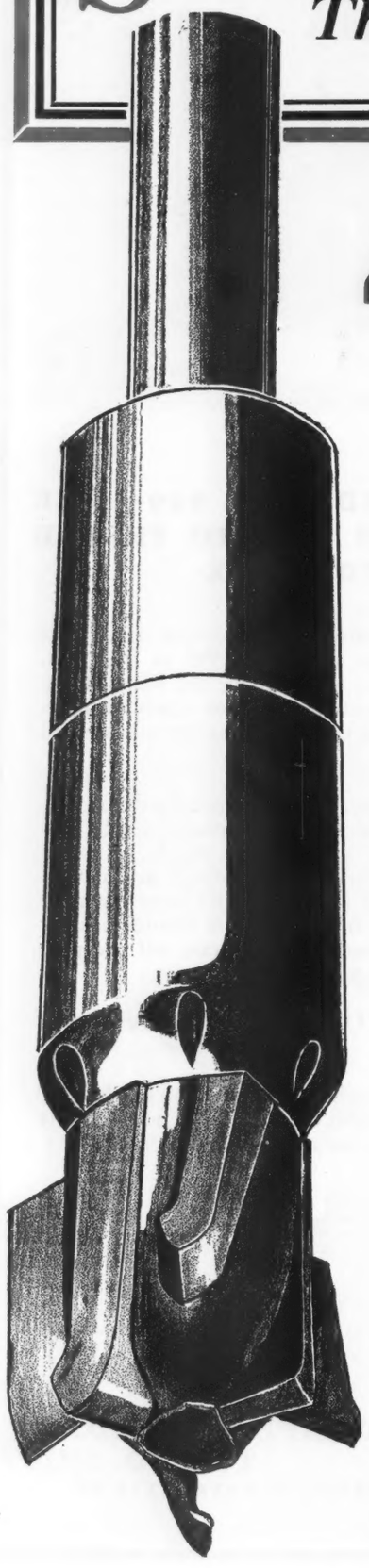

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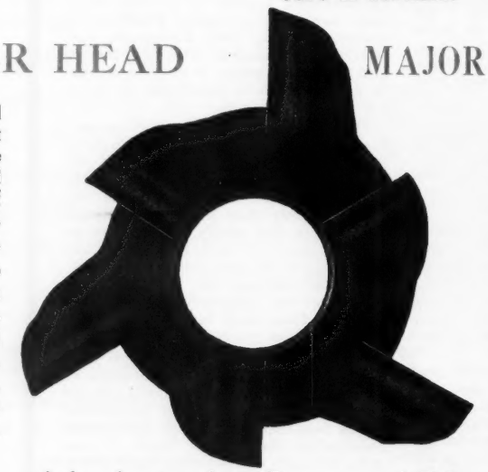

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## CALIFORNIA FIELDS

(Continued from Page 63)

during the past week and two or three more should be tanking oil before the close of another 15 days. Out in the Maricopa flats the Standard finished No. 2 Bonynge pumping 195 bbls. daily from 3,522 feet and preparations are being made to finish two more wells on the fee property in Section 9-11-23. The Doyle Petroleum finished No. 2 Son-Crail in Section 8-11-23, flowing 1,040 bbls. daily from 3,594 feet. In the Midway section of the field, where the Republic Petroleum extends the proven limits of production approximately 2 miles more than a year ago, the Republic Petroleum brought in No. 36, a new well in Section 8-32-23, flowing 945 bbls. of 23.1 gravity oil and 600,000 feet of wet gas daily from 2,869 feet. No. 35, located on the same property, has been finished at 3,150 feet and this well should be given a production test some time within the next week or ten days.

The General Petroleum has resumed production activities on its No. 2 lease in the Lost Hills Field of Kern County and the 40 pumping wells returned to production after a suspension of several years' duration added about 1,000 bbls. to the company's daily production. A crew of 30 men recruited from the ranks of General Petroleum employes laid off at Kettleman Hills and in other districts have been employed at Los Hills reconditioning these projects during the past several weeks. The most interesting feature in connection with resumption of production at Lost Hills is the fact that most of these small producers have come back doing better than the amount produced when shut in. This is of course due to the accumulation of a gas head during the period of suspension.

**Dominguez**

The Dominguez Field of Los Angeles Basin, where drilling and production activities are being retarded until a more propitious time, is witnessing the drilling of three deep tests by Associated, Shell and Union. These wells are more or less of an exploratory character and do not presage the initiation of a deepening campaign at the present time. The Associated started the ball rolling by redrilling and deepening No. 3 De Francis in an effort to ascertain the existence or absence of deep production beneath the lease in question. This well was carried down to 5,111 feet but failed to show commercial production on a production test a few months ago because of water trouble. The hole was accordingly plugged back to 4,474 feet and recompleted flowing 1,200 bbls. daily. Although No. 3 De Francis failed to secure commercial production in the deep zone, it is nevertheless producing from the second Callendar horizon at the present time. This zone, incidentally, has not been produced up to the present although its existence was definitely determined by a test well drilled a year or two ago. The Union and Shell control approximately 95 per cent of the productive acreage in the Dominguez Field and since their leases cover the apex of the structure they have a very substantial reserve for the future. The recent completion of No. 3 De Francis in the second Callendar zone by the Associated has forced the Shell to offset this well in order to prevent drainage and in accordance with this lease obligation No. 7 Manuel has already been spudded in.

The Rosecrans Field of Los Angeles Basin is another area where drilling and production activities are being held in restraint. Every once in a while, however, some operator is obliged to engage in development work because of lease obligations and subsequently completes a good producer. The Barnsdall recently extended the limits of production by completing a new well in the Zins zone on the Trust property flowing 1,100 bbls. per day from 5,940 feet. No. 11 Rosecrans of the Union, another well producing from the Zins zone, is flowing 950 bbls. daily from 5,960 feet at the present time. No. 8 Rosecrans of the same company is at present being redrilled and deepened to the same horizon and should be on production shortly as the top of the pay has already been encountered.

**Huntington Beach**

The Huntington Beach Field of Los Angeles Basin has been relatively quiet from a development standpoint for the last few years, although every so often some one starts out to drill a deep test. So far these operators have been prevailed upon to delay this deep zone exploratory work because of the possibility of precipitating another intensive deep zone exploitation campaign. It is logical to assume that eventually several deep test will be drilled at Huntington Beach but this work is expected to be held off until conditions improve. The Barnsdall recently completed a survey of the possibility of extension work at Huntington Beach and has accordingly taken over Featherstone & Preston's No. 1 Borchard in the eastern end of the field. Featherstone & Preston carried this well down to approximately 4,350 feet, at which point the Barnsdall resumed drilling. The Borchard and Newland leases aggregating 60 acres were acquired by the Barnsdall on a one-sixth royalty basis. The property in question is located out in the flat area in the eastern part of the field adjoining the Standard's Surf lease. A survey indicates that the Barnsdall has an excellent chance of getting production although individual well production may be relatively small. The oil, however, is of a good grade and highly desirable as a lube stock.

One of the most interesting completions during recent weeks in the Huntington Beach Field was the finishing of a 250-bbl. well by F. E. Bundy. The project in question, completed at 2,400 feet, was No. 3 Camp Ground, located on a ten-acre tract purchased by Bundy several years ago from the Methodist Assembly. No additional drilling has yet been undertaken but it is likely that another well will be started on this property in the near future. The Shell recently completed No. 1 Barksdall in the Lawndale Field of Los Angeles Basin flowing 215 bbls. of clean 32.3 gravity oil daily from 5,660 feet after spending more than a year in drilling work. This is the first completion chalked up in the Lawndale Field in a long time and will be the last for some time to come, as no development work of any kind is under way at present. The Union finished No. 28 Chapman, a new well in the Richfield district during the last week but this project was only good for 85 bbls. per day on the beam from 3,963 feet. Two other wells, the Continental's No. 2 Mondott at 4,488 feet, and No. 3 Santa Fe at 4,206 feet, are scheduled for completion in this field within the next few days and commercial production is anticipated in each. O'Brien & Weber's No. 1 Brown, a deep test on the east side of the Richfield district, was swabbed wet at 5,765 feet and the 4¾-inch has been recemented at 5,367 feet. The Jimsco Oil Co.'s No. 1 Atwood has been listed as a 195-bbl. well on the beam from 4,511 feet, the oil testing 21.6 degrees and showing a cut of 10 per cent. Thomas F. Barton's No. 1 Inglewood, a new well located in the town lot section of the Potrero Field of Los Angeles Basin, has been finished as a 320-bbl. well from 4,160 feet. This project was completed several days ago but the initial production showed a cut of 30 per cent. This has subsequently showed a little improvement but the output is still cutting 20 per cent water.

## LA.-ARK. FIELDS

(Continued from Page 59)

horizon. Lion Oil Refining Co. has rig up on No. 1 Ballard, Section 10-18-13, and Marine Oil Co. has location for No. 1 Simmons, Section 10-18-13. No. 2 on the same lease and No. 2-B Winn also in Section 10-18-13, and Federal Petroleum Co. and Union Saw Mill Co. have derrick up for No. 1 Fee (Union Saw Mill) in Section 9-18-13.

Anderson & Wimmer have taken over the leases in Section 7-5-17, Ouachita County, formerly held by Plaucher and others on which the latter drilled No. 1 Buck to 2,475 feet, and will take the hole down to the Mount Holly producing horizon. Location is about 4 miles north of the Mount Holly producers. Artex Oil & Gas Co.'s No. 1 Smith, Section 31-15-17, 6 miles west of Mount Holly, tested salt water at 3,077 feet and is drilling at 3,166 feet. Coates and others' No. 1 McDuffie, Section 32-19-17, at Junction City, Union County, is at 4,506 feet with nothing showing.

Magnolia Petroleum Co.'s No. 1 Rogers, Section 21-23-12, Carterville district, Bossier Parish, had an oil showing around 3,300 feet, approximately 100 to 150 feet lower than the new, deeper, producers in that district and Palmer Corp. also has a well due to test at slightly lower than the average of the new producers that have revived the Carterville-Sarepta area. H. L. Hunt of El Dorado is reported to have paid Atlantic Oil Producing Co. $35,000 cash for 620 acres in Sections 19-29 and 30-23-11 and 13-25 and 34-23-12.

**Deep Test in Urania**

Arkansas Fuel Oil Co. (Arkansas Natural Gas Corp.), is still making hole on its deep test in Urania, No. 5-F Urania, Section 24-10-1e, LaSalle Parish, a Tullos Townsite well. A test at 3,364 feet, about 1,500 feet below the average Urania pay showed salt water. The hole is now at a total depth of 4,532 feet. Meanwhile Gulf States Gas Co. and Hope Oil Co. have started a well each for the original pay.

Monroe and Richland second sand wells have not shown up so well. Those that have been completed in the deeper sand have slumped suddenly in pressure for some reason not yet determined, and others since drilled to this horizon have tested too much water and in most cases are shut down for orders.

**Completions Were Few**

Completions records for the whole division are slender indeed. Magnolia Petroleum Co.'s No. 1 Anna Mason, Section 27-12-11, DeSoto Parish, Dolet Hills area, was a dry hole at 3,321 feet after a show of oil and gas with salt water at 1,648 feet and dry with a small show of gas at 2,746 feet.

Eylers Oil & Gas Co.'s No. 1 Johnson, Section 17-12-10, Red River Parish, confirmed its previous gas strike just southeast of proven Bull Bayou territory and in the Ouachita Parish division of Monroe gas field Magnolia Petroleum Co.'s No. 4 United States Government, Section 20-19-5, gauged 250,000 feet of gas from 2,290 feet after drilling to 2,543 feet and plugging back. It was one of those second sand wells that didn't perform quite so well. It was estimated a 3,000,000-foot gasser in the original pay at 2,283 feet.

Two Richland Parish gas field wells, drilled beyond the 2,450-foot horizon also were failures and a third, finished at 2,445 feet was a success. The two failures were wildcats northeast and well beyond proven territory. Woodley Petroleum Co.'s No. 1 Buie, Section 32-18-7, 10 to 12 miles northeast, was dry at 3,280 feet and Triangle Drilling Co. and Woodley Petroleum Co.'s No. 1 Crumpton, Section 16-17-7, half way between the Woodley Petroleum Co. wildcat and production, was junked at 2,889 feet. Richland's third and only successful completion was W. C. Feazel's No. 1 Wilson, Section 31-16-6, in the southwest corner of proven territory, which was estimated good for 50,000,000 feet of gas at 1,010 pounds pressure from 2,445 feet. There were two completions in Union County, Arkansas, one in Champagnolle, a dry hole, and the other in Smackover. Ohio Oil Co.'s No. 1 J. M. Gregory, Section 1-17-14, Champagnolle, made 1,000 bbls. 80 per cent salt water on air lift from 3,014 feet and Skelly Oil Co.'s No. 8-A Alphin, Section 24-16-16, Smackover, was completed as a key well on repressuring system at 2,116 feet, gas going into the hole at 15 pounds.

The only interesting news from Mississippi was Gulf Refining Co.'s No. 1 Rainey in Section 35-5-1e, Hinds County, about 1 mile west of the Jackson. It follows purchase of controlling interest in Home Oil & Gas Co.'s holdings which include a large block of leases and a well in 13-5-11e, which had a gas show at 2,509 feet but was abandoned when it ran into a cavity and lost returns at 2,512 feet. Gulf has a large staff of geological, paleontological and leasing talent in Mississippi with headquarters in Meridian.

## KANSAS FIELDS

(Continued from Page 55)

Stuckey, NW cor. SW SE, Section 9-21-3w. The Texas Company made location for No. 2 Stuckey, NW cor. NE SW, Section 10-21-3w. The Prairie Oil & Gas Co. made location for No. 3 Stuckey, NE cor. NW SW, Section 10-21-3w. Mid-Kansas Oil & Gas Co.'s No. 2 Larson, NW cor. NE SW, Section 31-18-2w, is dry and abandoned at 3,480 feet. Derby Oil Co.'s No. 1 Krehbiel, NW cor. NE SW, Section 34-20-3w, is dry and abandoned at 3,622 feet. Sinclair Oil & Gas Co.'s No. 2 Voshel, SW cor. NW, Section 10-21-3w, made 945 bbls. in Wilcox sand 3,344-48 feet.

**Pratt County**

O'Haver & Jones' No. 1 Hunt, C SW NW, Section 15-28-14w, is a dry hole at 4,745 feet.

**Reno County**

M. M. Valerius and others made location for No. 1 Fields, NE cor. SE NW, Section 6-26-7w.

**Rice County**

Boucher Oil Co.'s No. 1 Boy, SW cor., Section 16-21-10w, has been completed for 10,250,000 feet of gas in sand 2,550-53 feet.

**Saline County**

Twin Mound Oil Co.'s No. 1 Weis, NW cor. SW NE NW, Section 20-13-4w, has been abandoned at 630 feet. Templeman Brothers' No. 1 Laubengayer, C SW, Section 20-15-5w, has been abandoned at 3,812 feet. Ira L. Keith's No. 1 Holmquis, SE cor. SW SE, Section 10-15-4w, is a dry hole a 3,690 feet.

**Sedgwick County**

Shell Petroleum Corp. made location for No. 1 Stollie, SW cor. NE SW, Section 11-26-2. Jones and Shell Petroleum Corp.'s No. 1 Brown, NE cor. SE SE SW, Section 15-26-2, is a cellar. J. S. Cosden's No. 1 Dewess, NE cor. NW SW, Section 1-26-1w, Valley Center Pool, has been abandoned at 4,015 feet. Continental Oil Co.'s No. 1 Semsroth, NW cor., Section 25-28-4w, is dry and abandoned at 4,309 feet.

**Scott County**

Dry Lake Enterprise Co. has the cellar dug for No. 1 Peters, C NW, Section 16-20-31w.

**Sumner County**

T. B. Slick and Pryor & Lockhart's No. 1 Peasel, NW cor., Section 33-31-1w, made 140 bbls. in chat 3,655-59 feet.

## ROCKY MOUNTAIN AREA

(Continued from Page 64)

Standard Oil Co. of Colorado's No. 1 Hertha, NW cor., Section 21-4n-69, Berthoud Dome, is fishing for five joints of 10-inch which dropped when the string parted. The total depth is 2,820 feet.

**Moffat County**

The Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock structure, cemented the 16-inch at 795 feet and is waiting. The same company's No. 19-SD Parkinson, SW NE, Section 22-4n-92, Iles Dome, the only drilling operation on that structure, is drilling at 1,820 feet in gray shale. The 16-inch was cemented at 105 feet. The Mountain Fuel Supply Co.'s No. 1 Lasher, NE NE, Section 25-12n-101, Bartram Dome, is drilling at 1,345 feet.

**Rio Blanco County**

The Texas Production Co.'s No. 1 Potter, NE SW, Section 30-2n-96, White River, is bottomed at 5,632 feet and trying to screw on the 5¾-inch at 2,200 feet, at which depth the string parted. The White Eagle's Piceance Creek test is still shut down.

**Weld County**

The Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW, Section 24-6n-61, Greasewood Dome, is drilling at 4,896 feet and carrying the 4¾-inch just behind the tools. The show of gas at 4,860

feet has been partially shut off by the casing.

**Fremont County**

The Continental Oil Co.'s No. 4 Steinmier, SW SW, Section 35-18s-70, Canon City district, is drilling at 575 feet. Hammond & Rocco's No. 1 Beltramo, NW SW SW, Section 1-19s-70, is shut down at 1,800 feet. The Vogel-Raddatz Corp.'s No. 23 Travis, SE NE SW, Section 28-20-69, South Florence, commenced spudding on January 20.

**Delta County**

The Crawford Oil & Gas Co.'s No. 1 McKissen, SW NE, Section 18-51-91, Crawford Dome, is preparing to resume at 970 feet. This company has been reorganized with R. E. Parrish as president. Mr. Parrish reports the well is 75 feet in the Dakota which showed some petroleum gas at the top but which did not contain any water. It is to be continued to the Pennsylvanian.

**IDAHO**

The Grand Teton Oil Co.'s No. 1 Blevins, SW, Section 35-5n-44, Horseshoe structure, Teton County, Idaho, is bottomed at 1,925 feet and underreaming the 10-inch at 1,824 feet. The Moneida Oil Co.'s No. 1 Rose, NE, Section 32-14-36, Beaver Dome, Clark County, is drilling at 870 feet and is believed to be still in the Portneuf, or chugwater formation.

**SOUTH DAKOTA**

The Black Hills Petroleum Co.'s No. 1, NW, Section 34-6s-2e, Custer County, South Dakota, 25 miles northwest of Hot Springs, is shut down at 1,344 feet and is estimated to be good for 20 to 25 bbls. daily from the Minnelusa, or basal Pennsylvanian. This is South Dakota's first commercial well. It probably will not be drilled deeper at this time, but will await the completion of two other wells which are to be put down. This well started in the red beds and had some gas, 100,000 feet, at 1,170 feet in the top of the Minnelusa. The sand is reported to be 6½ feet thick and the oil to test 38.5 gravity. The well is reported to be fully paid for and the company to have ample funds in bank to make a thorough test of the structure.

**WYOMING**

The Midwest Refining Co.'s No. 29-DT, NW, Section 35-40-79, in the Salt Creek Field, which is being drilled on a Wyoming Associated lease and which is intended as a test of all prospective oil horizons, has reached a stage where interest in its progress will be more marked. The corrected depth is 3,096 feet with the 10¾-inch casing cemented on bottom. It is through the third Sundance, which produced close to 3,000 bbls. a day when it broke loose. The oil was accompanied by a flow of 15,000,000 feet of gas. The oil and gas have been successfully cased off and drilling will be resumed at once. It still has the red beds ahead of the drill and then will come the Embar, followed by the Tensleep, the Amsden and the Madison.

**Fremont County**

The Texas Production Co.'s No. 1-A State, SW SW, Section 36-34-95, Alkali Butte, is drilling at 2,580 feet. It is still some distance off the objective horizons which were productive in its discovery well three-fourths of a mile to the south and east. The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-30-1w, Pilot Butte, is still bottomed at 3,370 feet, where it has been underreaming to shut off a flow of 63,000,000 feet of gas in the Muddy, but it is expected it will be making new hole within a few days.

**Lincoln County**

The co-operative company which took over the operation on the Archie Neill permit in the NW SE NW, Section 14-24-113, Fontenelle structure, will be known as the Fontenelle Production Co. Operations are to be resumed shortly. The well is down 220 feet and the objective is expected at 1,600 feet. It was spotted by Geologists Christian Vrang and J. B. Crapo. The property consists of 1,280 acres and all the necessary equipment is on the ground. All the other Lincoln County wells are shut down for the winter.

**Uinta County**

The California Co.'s No. 1 Union Pacific, NE NW, Section 7-17-116, is shut down at 4,600 feet waiting for parts.

**Sweetwater County**

The Mountain Fuel Supply Co.'s No. 1 Cappers, SW NE, Section 2-19-104, North Baxter Basin, is shut down at 3,200 feet, probably on top of the Dakota, and its No. 1 Union Pacific, NW NE, Section 13-19-104, is shut down at 3,100 feet. The same company's No. 1 Pat Sullivan, SW SW, Section 10-16-104, South Baxter Basin, is drilling at 3,265 feet, and its No. 1 Union Pacific, Section 11-17-104, cemented the 6⅝-inch at 2,563 feet.

**Park County**

The Ohio Oil Co.'s No. 1 Burlington, SW SE SW, Section 21-53-101, Shoshone Dome, near Cody, cemented the 8⅝-inch at 4,312 feet. This well is getting to an interesting depth. It is three-fourths of a mile west and slightly north of the Ohio's No. 1 Pulley, completed in 1928 as a small producer in the top of the Embar at 4,764 feet. This is the second deep test to be drilled on the structure. The Midwest Refining Co.'s No. 31 Rosenberg, SW NE, Section 25-58-98, Frannie Dome, is drilling at 1,255 feet in pink shale. There is very little activity in the Oregon Basin Field following the completion of the Texas Production Co.'s No. 1 Sonners. Charles E. Orchard's wells are all shut down except No. 1 Atherly, SW cor., Section 33-52-100, which cemented the 8¼-inch at 2,745 feet.

**Big Horn County**

The Ohio Oil Co.'s No. 1 Union Gas, NE cor., Section 22-56-97, Byron Dome, is jarring on pipe at 4,607 feet. This well is an offset on the west to a well drilled last year by the Cross Gas Co., completed for 90 bbls. at 4,230 feet, in what probably was the Sundance.

**Hot Springs County**

The Ohio Oil Co.'s No. 1 Smith, SE NE, Section 9-46-99, Walker Dome, is drilling at 3,100 feet after rebuilding rig burned by fire.

**Rocky Mountain Production**

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending February 8, follow:

| | |
|---|---|
| **WYOMING** | |
| Salt Creek | 29,190 |
| Frannie | .... |
| Big Muddy | 2,030 |
| Oregon Basin | 3,850 |
| Dutton | .... |
| Elk Basin | 770 |
| Ferris | 20 |
| Grass Creek | 1,990 |
| Hamilton | 750 |
| LaBarge | 2,350 |
| Lance Creek | 180 |
| Lost Soldier | 3,300 |
| Osage | 850 |
| Poison Spider | 1,120 |
| Rock River | 2,380 |
| Rex Lake | 90 |
| Lander | 500 |
| Simpson Ridge | 50 |
| Teapot Dome | 40 |
| Greybull | .... |
| Total | 49,509 |
| **MONTANA** | |
| Cat Creek | 1,180 |
| Kevin-Sunburst | 5,940 |
| Cut Bank | 2,100 |
| Lake Basin | 70 |
| Total | 9,290 |
| **COLORADO** | |
| Moffatt | 1,103 |
| Fort Collins | 1,785 |
| Florence | 526 |
| Iles | 974 |
| Tow Creek | 562 |
| Boulder | 25 |
| Rangley | 100 |
| Total | 5,075 |
| **NEW MEXICO** | |
| Artesia | 765 |
| Cap Rock (Maljamar) | 931 |
| Hogback | 420 |
| Rattlesnake | 1,674 |
| Table Mesa | 113 |
| Jal | 1,421 |
| Hobbs High | 22 |
| Getty | .... |
| Lea | 5,807 |
| Miscellaneous | 282 |
| Total | 10,835 |
| Grand total | 74,709 |

**MONTANA**

Activity in the Red Coulee, or Buckley Dome on the boundary is rapidly assuming the nature of a boom. The Cosmos Petroleum Co.'s No. 1 is reported making about 300 bbls. of oil with considerable water. The oil has a gravity of 31.6. The Cosmos well is expected to stop where it is and produce, but the McDonald well is casing off the gas in the Sunburst sand and will be drilled to the Ellis sand. No well in this field has reached the Ellis sand and expectations of large wells are held when that sand is tested. Eleven rigs are to start work in the near future.

In eastern Montana, the wildcat drilling on the Whitetail Dome in Sheridan County, Section 15-36-53, will not be abandoned just now. People in Fargo, N. Dak., raised the sum of $8,000 to continue the drilling to test lower formations.

## FOREIGN OIL AND U. S. OIL INDUSTRY

(Continued from Page 41)

ports is important, for as may be seen from Table No. 1, our exports of crude have in recent years been large, around 25 per cent of the imports, and these of course must be taken into account.

**Gasoline Yield From Foreign Oil**

The estimate of the gasoline from the "net crude oil imports" here employed is necessarily an arbitrary one, as there are no available statistics which show amounts of gasoline obtained from foreign oils refined in this country, nor what would be of nearly equal interest, how much of it is cracked or merely topped. In spite of this statistical handicap, it is believed that a sufficiently accurate figure for this gasoline can be estimated. The bulk of the imported oil is heavy, say 20 degrees gravity, and will yield by topping possibly 10 per cent, and by cracking 25 per cent gasoline. Assuming a 50-50 division between the amounts cracked and topped, the average gasoline recovery from oil will be 17½ per cent. It is admitted that this is a rough approximation, and that the trend is now in the direction of a more extensive cracking of all heavy oils. However, for the early years covered by this study, cracking was of minor importance up to 1924. Thus during the period of heavy Mexican oil imports the factor of 12½ per cent gasoline recovery more closely approximates the facts, and has here been used. The possibility that use of the 17½ per cent factor might yield a low estimate for the years 1929 and 1930 has been considered, but against this possibility there is present a factor of safety in the fact that the crude exported is of much higher gravity than the average of crude imported. Thus, on a gasoline basis, a barrel of export crude is possibly the equivalent of 1.5 bbls. of imported crude.

With due allowance for this factor which, however, has not here been taken into account in the computations, it is felt that the figure of 17½ per cent for gasoline from net crude imports does not understate the present net effect of foreign crude on the domestic gasoline supply.

The total gasoline from foreign sources is, of course, the sum of the actual gasoline imports and the gasoline obtained from the net crude imports (as here estimated, 12½ per cent up to and including 1923, and 17½ per cent thereafter). Table No. 2 shows the computation of the figures giving the yearly total for gasoline from foreign sources.

The graph (Figure 1) is a summary of the yearly relationships between the total gasoline from foreign sources (Column 4, Table 2) and the total demand on the American refining industry, viz: *Domestic demand plus exports. It is believed that the volume relationship shown is in the sense of supply a fair measure of the relative importance of foreign oil to the domestic industry. Such being the case, the only conclusion possible from the data is that foreign oil, which since 1925 has supplied but a twentieth part or less of the demand for gasoline, cannot have been an important deterrent to prosperity in the industry.

**No Burden on Domestic Situation**

But even this twentieth part of the gasoline business, pre-empted by foreign oil, has been in no sense a burden on the domestic situation, because it has been much more than counterbalanced by the great gasoline export trade which, of course, is just as much a part of the business as the imports. Thus the net result of all foreign trade in oil and gasoline is a great help to the industry, absorbing in fact roughly one-tenth of the country's domestic crude production and refinery output. That is, the refineries of the United States have been required to work approximately one full month and six days out of each recent year to supply the excess of foreign demand for gasoline over the supply of gasoline from all foreign sources. How important this gasoline export surplus is to the oil industry in general is summed up in Table No. 3.

**TABLE NO. 3**

(In barrels of 42 U. S. gallons)

| Year— | *Corrected gasoline export balance (1) | Total output U.S. refineries (2) | Per cent of total refinery output represented by gasoline export balance (3) |
|---|---|---|---|
| 1918 .... | + 9,237,000 | 85,007,000 | 10.8 |
| 1919 .... | + 3,097,000 | 94,235,000 | 3.3 |
| 1920 .... | + 2,536,000 | 116,251,000 | 2.2 |
| †1921 .... | — 2,166,000 | 122,704,000 | .. |
| †1922 .... | — 2,244,000 | 147,672,000 | .. |
| 1923 .... | + 8,041,000 | 179,903,000 | 4.4 |
| 1924 .... | +14,967,000 | 213,326,000 | 7.0 |
| 1925 .... | +18,197,000 | 259,601,000 | 7.4 |
| 1926 .... | +29,913,000 | 299,734,000 | 9.9 |
| 1927 .... | +31,837,000 | 330,435,000 | 9.6 |
| 1928 .... | +38,903,000 | 377,183,000 | 10.3 |
| 1929 .... | +42,600,000 | 434,241,000 | 9.8 |
| 1930 Est. | +43,400,000 | 470,000,000 | 9.2 |

*The corrected or true export balance is the apparent export balance (viz: Exports minus imports) reduced by the estimate of the gasoline brought into the country as a result of the net crude imports—in other words, the net exports shown in Column 6, Table 1, reduced by the figures for gasoline recovered from foreign oil given in Column 2, Table 2. †The corrected balance of foreign trade in gasoline was against the United States in 1921 and 1922, whereas the apparent balance (Column 6, Table 1) was in our favor.

**Estimates for 1930**

Attention is directed to the estimates for 1930, which show no important relative change from the 1925-1929 situation. This point is worthy of especial note, as it is believed that no single phase of the oil outlook for 1930 is so favorably defined as is this question of foreign oil.

Venezuela for the first time since 1917 will show no important jump in production. A 10 per cent increase is probably the outside possibility with an even closer equality to 1929 output more than likely. Colombia and Peru are expected to be stationary, and Mexico will probably continue its decline. Exports of gasoline on the other hand, are likely to increase by 5,000,000 bbls. during 1930. Thus with stationary imports and rising exports, the favorable gasoline trade balance should make a new record, and be somewhere in the neighborhood of the 43,500,000 bbls.

The importance of our status as a net gasoline exporter can hardly be overemphasized. Except for the years 1919-1923 inclusive, which were affected by the double weight of Mexican peak production and domestic business depression, the United States oil industry enjoyed a substantial gasoline export balance in its favor. In recent years this surplus of gasoline exports over imports has amounted to approximately one-tenth of the total refinery output of the country. The importance of the export gasoline is such that it should not lightly be placed in jeopardy by any tariff action except after most exhaustive study of all economic angles of the question. The first result of a tariff such as currently advocated by many Mid-Continent interests would be the diversion of a large part of the United States' export business to foreign sources. If the United States should lose substantially all its export gasoline business, as would be not unlikely with a high tariff prevailing, the total demand on the refineries for gasoline would drop by 9.5 per cent or so, which would reduce the demand for domestic crude by a similar percentage. No doubt the industry could event-

*Monthly and yearly figures for indicated domestic gasoline demand are published by the United States Bureau of Mines. These combined with the gasoline export figures make up the total gasoline requirement on the United States refining industry. The graph shows how much of this requirement is furnished by foreign oil and gasoline.

ually be brought into a profitable balance based on domestic supply and demand alone. However, the same forces of curtailment that would be required to bring this about can certainly achieve a similar balance under present conditions through less extreme corrective measures, and with less risk of damage to the industry in general.

**Advocates Domestic Curtailment**

The economic salvation of the oil industry will not in the present instance be achieved through tampering with the foreign end of the business. On the contrary, the industry appears to be facing a full year during which it is definitely known that the foreign oil influence will be stationary at its 1928 and 1929 level. An excellent opportunity is thus presented to Mid-Continent and California operators for a genuine curtailment of production to the known 1930 demand, or even a little under, and to use this year to cut deeply into the crude storage stock and practically wipe out the excess gasoline stocks. Rigorous curtailment can be practiced in the United States during 1930 without fear that in the meanwhile the foreign producers will nullify the effect by corresponding increases in output.

Summarizing the foregoing data and observations, it appears that the present occupation of so much of the brains and energy of the industry, with the idea that the foreign oil situation needs correction, is not only unwarranted by the facts, but involves a dangerous loss of time in getting at the real seat of the trouble.

Though difficult to express in a word, the present fundamental economic weakness of the industry results from the fact that in recent years the rate of finding new oil reserves has very greatly exceeded the rate at which current world requirements have increased. Foreign activities have contributed to this drawing apart of visible reserves from current demand, but they account for only a minor fraction of the total business of the industry, hence whatever is done about foreign oil, so long as it maintains its present limited scope, cannot greatly affect the general problem.

Let the industry face the real facts. There is but one sound course to follow if the above theory that the recent acceleration in the rate of building up reserves is the principal difficulty, and that is to increase the stringency of curtailment at a parallel rate. Mutual congratulations, and oratorical praise of the accomplishments achieved by curtailment schemes thus far are futile time consumers. The fact that a few barrels of crude have been taken out of storage here and there means less than nothing when considered in relationship to the general situation. The industry now has sufficient visible underground reserves to dispense with 75 per cent of its above-ground storage, and curtailment should accordingly increase to the point where some such reduction in storage becomes a real possibility over the next two or three years.

The foreign oil situation appears to be definitely pegged at its present level for 1930. This opens up a splendid opportunity for the American producer to do some much needed adjustment at home; stop straining for the last 5 per cent of the oil business that he can not hope to get any way; and cut down his production to a point that will economically justify the higher prices his "one time crop" should be bringing in. The slogan "down with foreign oil" is a snare and a delusion. It should be immediately relegated to the background, and in its place be substituted that masterpiece of common sense advice proposed a few weeks ago by a well-known trade journal, viz: "More money from less oil."

### C. B. COON PROMOTED

C. B. Coon, head of the land department in Kansas for the Sinclair Oil & Gas Co., has been promoted to assistant to the superintendent of the company's general land department, in Tulsa. No one has been named yet to succeed Mr. Coon in Wichita.

## CALIFORNIA DISTRICT TO ELECT DEVELOPMENT DIVISION OFFICERS

LOS ANGELES, Calif., Feb. 8.—The two-day conference called by the California district of the American Petroleum Institute, division of Development and Production Engineering, for March 20 and 21 at the Oil Equipment and Engineering Exposition, Los Angeles, will include the election of officers of the division for the coming year and the discussion of papers on drilling and production procedure.

A. C. Rubel, California divisional chairman, has appointed the following nominating committee: John Franklin Dodge, University of Southern California; J. U. Stair, Shell Oil Co.; Walter Thompson, Standard Oil Co. of California; Fred Fortine, Barnsdall Oil Co.; and Roy Barnes, Continental Oil Co.

This nominating committee has already met and ballots will be mailed as soon as possible so that they may be returned before the date of the conference, at which time the ballots will be canvassed and the successful candidates will be installed.

Wendell Jones, chairman of the drilling procedure committee, is scheduled to act as presiding officer of the first day, when four papers on straight-hole drilling and four on changes in casing programs called for by deep drilling in California fields are expected to be read.

F. W. Lake, as chairman of the production procedure committee, is likely to be presiding officer for the second day, when papers on air and gas lift work and on types and uses of counterbalances will probably be presented and discussed.

Recognizing the educational value of the exposition and the opportunity it presents for contacts between the makers and users of tools and supplies, equipment manufacturers are co-operating with petroleum engineers, oil company officials and district officers of the American Petroleum Institute in the collection of exhibits that will have particular interest for the field men who attend the conference.

Arrangements have already been made to gather together representative collections of equipment, tools and supplies that are designed to assist in the drilling of straight holes. Similar collections will be made of devices that relate to the other subjects to be placed on the conference program.

**Scientific Exhibits**

These particular exhibits will form part of the scientific and technical section of the exposition. They will not be restricted to the products made by exhibitors, but so far as possible will include all available specimens of devices that are of interest. The various devices will be grouped together for comparison of their respective advantages and disadvantages. Selling efforts will be eliminated from these displays, although when possible experts will be present to explain how the devices work.

Two of the collections in the scientific and technical section that will have unusual interest for those attending the American Petroleum Institute conference will be the exhibit of well-surveying instruments and the display of bits of various types.

Well-surveying systems that will be represented either by specimens or by fully illustrated descriptions will range from the acid-bottle method to the latest and most elaborate instruments that scientists have evolved.

California has taken such a strong lead in the development of well-surveying instruments that this collection is expected to be the most comprehensive of its kind ever assembled. It will include a number of devices that have never been shown before and that are at present not used outside the state.

Acid-bottle surveying, the simplest and least expensive method of determining when the hole deviates from the vertical, will be represented by specimens of carriers and supplies developed by firms specializing in this method, and also by the devices that oil companies have made for their own use. In this group will be included particulars of the devices made by the Celco Oil Well Survey, Inc., Halliburton, Jack Johnson, and the Associated Oil Co.

Other instruments placed in this collection may be divided into two groups: (1) those that obtain directional changes by orientation of the drill pipe; (2) those that use some form of compass.

Alexander Anderson's pioneer method of obtaining records of directional changes by orientation will be shown, together with specimens of other instruments that adopt somewhat similar principles.

The exhibit will contain a number of instruments that come within this same general classification, although differing in many important respects. In this group will be the Elliott drift indicator, which consists of a pendulum locked in registering position when the mud pump is started, and that makes its records on rubber charts; and the Jack Johnson instrument which consists of a pendulum mounted on a universal joint and two recording styluses to show the movement of the pendulum in two perpendicular directions on a strip of paper.

The sperical oil well surveying machine also finds a place in this group. It consists of two hemispheres hung on four-way suspensions that allow the north pole of the hemisphere to remain vertical at all times. The mechanism moves a stylus on each hemisphere toward the pole at an even rate of six degrees per revolution, forming a spiral line. As long as the machine remains perpendicular, each stylus records a true spiral. Any deviation from the vertical is indicated by a corresponding deviation from the spiral line.

R. P. McLaughlin, former California state oil and gas supervisor, will contribute his instrument, the clinograph, to the group. It employs two pens—one red and the other blue—to indicate the horizontal drift caused by deviation from the vertical. The number of feet the bottom stand of pipe has drifted in any direction is shown by the combined records made by the pens on a continuous roll of ruled paper, which is wound from one spool to another by clockwork mechanism.

Surveying instruments that obtain a record of directional changes by the use of a compass in some form will be well represented in the collection at the exposition. They will include the following:

The Dale-Nielson instrument, which contains a pendulum, universally mounted, and capable of maintaining a true vertical position at all times. This pendulum records the angles of inclination of the hole on moving tapes by means of styluses. Direction of the drift is obtained from a specially constructed compass, making graphic records on a separate chart.

The Rieber instrument uses a spring-driven mechanism, whose motive power operates through a train of specially constructed gears and movements not affected by the vibration within the pipe. The mechanism is operated at the will of the driller by an inertia type of trip device, which comprises a body of mercury inclosed in a steel chamber. Three cams are operated by the spring-driven mechanism—one for recording the position of a plumb bob, one for recording of the compass position, and one for transferring the reading discs and resetting the trip for the next reading. The mechanism takes one of the aluminum recording discs from a storage magazine, exposes it to the recording mechanism, and moves it into a receiving magazine.

The McCoy device is a combination of a circular spirit level, camera, and a compass. The degree of deviation and its direction are indicated by a bubble that rises to the high side of a graduated circular spirit level, mounted directly over a compass. A photograph, with 5-second exposure, is taken of the combined spirit level and compass at intervals of 4 minutes, or at any other interval that may be desired.

The Sun-Sperry gyroscope consists of a gyroscope, a camera, and a bubble, together with the batteries that provide the power supply, all completely enclosed in a high-pressure steel case. The instrument has been developed by the Sun Oil Co. in co-operation with the Sperry Gyroscope Co. In operation the apparatus is lowered into the hole at the end of a wire line and records are taken automatically at short intervals both while going in and coming out of the hole, and without stopping the instrument at any point in the hole.

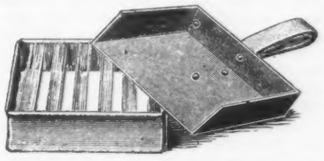
## ROTARY RETURNS SHOW NEED OF CAREFUL STUDY

(Continued from Page 43)

judge quite accurately when the sample is thoroughly dried and when it has cooled it is again sacked in the small paper sample sacks commonly used by all geological departments.

**Cutting of Samples**

It is the custom for field geological departments to exchange samples of cuttings and for this purpose it is the usual rule to divide the original sample into as many small samples as the number of geological departments interested require.



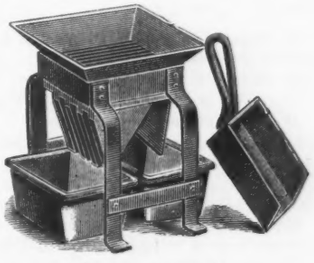
*Sample splitter and scoop.*

The cutting of samples is now done by the hand method and while this is quick and satisfactory it is suggested that time could be saved and greater accuracy could be attained if the type of sample splitters and scoops used in assay offices was obtained for this work.

The illustrations show the tray splitter and scoop which could be easily adapted to the requirements of the oil field geological department and permit the samples to be delivered directly into the individual sample sacks.

The second illustration shows the "Jones" ore sampler, a somewhat larger and more costly piece of equipment but one that would perhaps lend itself quite readily to change to accommodate the particular requirements of the oil industry.

After these samples have been prepared for the geological department they are examined under a microscope having a range of field of from 12½ to 30 or 40 diameters and as the cuttings are identified the record is made upon the log sheet and becomes a permanent part of the company's files.



*"Jones" ore sampler.*

The samples of cuttings are also filed for future reference and kept until such time as there is no further need for them for rechecking, although some special samples are kept indefinitely.

It is very interesting to contemplate the changes that have taken place in this particular branch of the oil industry since the early days when logs of wells consisted of very meager information and to trace the development up to this time when the work is highly specialized.

**Mechanical Improvements**

There does seem to be room for some

mechanical improvement in the methods of taking samples at the well both for cable tool and rotary operations, and it is possible to take advantage of the very efficient sampling systems that have been worked out for the mining industry where the highest type of accuracy was required to secure samples of ores that carried as much as $60,000 worth of gold to the ton.

It is not intended to infer that any such accuracy will be needed in the oil industry, but it is felt that a much better correlation of underground formations will be had when some standard method of securing samples of cuttings is arrived at and used more generally, for the time element in carrying a cutting from the face of the bit to the top of the hole will give opportunity for a variation of several feet in the depth of the hole as now recorded by the method in general use.

The velocity of the up-current is variable and its carrying capacity is limited by this velocity and it may be found that means can be devised whereby this up-current velocity can be maintained more constant and if this can be done it will then be possible to estimate quite accurately the time needed to deliver cuttings to the surface from any depth of hole.

As conditions now exist the caving of hole in the softer formations creates larger annular areas between drill pipe and side walls of the hole and this enlarged space will reduce the velocity of the up-stream current and by this reduction of velocity its carrying capacity is reduced proportionately.

Because of this condition the cuttings that leave the face of the bit may not reach the surface by one direct upward flow but may be carried part way up the hole and then dropped out of the stream and held in suspense for a time because the velocity of the current is suddenly reduced as the space around the drill pipe increases.

**"Teetering" Particles**

This will create an area of "teetering" particles and they will continue to remain in that zone of low velocity current until such time as they are ground finer and can therefore be carried upward by the current, or until the velocity of the current is increased due to restriction of the area of the cavity or speeding up of the pumps or from some other cause.

John R. Suman has stated a formula in his book on Petroleum Production Methods that is as follows:

$$N = \frac{D\,(R^2 - r^2)}{x^2\ y\ z\ E}$$

N—Number of minutes for fluid to be expelled from hole.

R—Radius of drilled hole in inches.

r—Radius of outside of stem in inches.

D—Depth of the hole in inches.

x—Radius of pump cylinder in inches.

y—Stroke of pump.

z—Pump impulses per minute (total) (2 times number strokes on both sides).

E—Pump efficiency (in per cent).

Some work is being done at this time to develop a formula that will give carrying capacity of up-stream currents under the conditions as found in rotary wells and when these data are available it may be possible for the geologist to apply them to his problems and determine more accurately the thickness of, for instance, the Detrital zone in the Oklahoma City Field, which is now a matter of open discussion. As the thickness of the interval involved is from 6 to 10 feet in some places the time element entering into the taking of samples and marking them as to the depth from which they were secured might account for this difference in the Detrital zone thickness.

It is worth considering and if this department of The Oil and Gas Journal can in any way assist in this work it will be glad to make available any data accumulated upon the sampling and classification of metalliferous ores that are now in its files.

# SOCIETY OF MECHANICAL ENGINEERS STUDYING OIL INDUSTRY PROBLEMS

The American Society of Mechanical Engineers has made considerable progress during the past three weeks in the organization of committees to undertake special studies for the purpose of promoting the mechanical engineering efficiency of the petroleum industry. Two Tulsans, Arthur J. Kerr and William G. Heltzel, chairmen, respectively, of the Mid-Continent section, American Society of Mechanical Engineers and the National Petroleum division of that society, in co-operation with Ernest Hartford, assistant national secretary, have taken leadership in this development. A large number of engineers and technicians are now actively engaged on an investigation of various types of prime movers for rotary drilling. Arrangements have been made to develop actual data on the performance of various apparatus which will be comparable and through which it will be possible to determine the kind of prime movers to be employed, according to the conditions to be encountered. The use of steam power, electric power, oil engines and gas engines is under investigation, and the committees are representative of the manufacturer of the apparatus, the contractor who uses it and the oil companies who pay the cost of the operation. It is predicted that all three parties will be benefited as a result of the study.

An effort to stop the large loss of life and property through the continual series of ruptures of pressure vessels of various types is being made by a committee on unified pressure vessels. A large number of experts are engaged on this problem, pursuing it from three angles, welded vessels, riveted vessels and vessels made through a combination of riveting and welding. With the section of the A.S.M.E. Boiler Code on this subject to guide them the work of this committee will be simplified, and at a reasonably early date a definite decision should be arrived at.

Another committee is making an analysis of the fixed and operating charges for motor driven oil pipe line pumping stations. This is another phase of the general investigation and study of oil transportation problems which was begun last October as a result of the experimental station exhibited at the International Petroleum Exposition, by a committee on automatic pipe line pumping stations. Its work has progressed to the point where it is now necessary to reconstruct the exhibit referred to, and last week representatives of the committee selected a site at the exposition grounds where the new station will be built, and where experimental work will be carried on until the exposition opens next October.

Last Friday evening another committee was formed to make a study of compressors as the first portion of the work to be undertaken by the committee on gas transportation. This will concern itself with various phases of the use of compressors, including compressor station design, standardization of practice, etc.

The personnel of the committees formed to date includes:

Committee on Gas Transportation: T. R. Weymouth, Oklahoma Natural Gas Corp.; Earl Rush, Cities Service Gas Co.; C. B. Day, Consolidated Gas Utilities Co.; George Bandalier, Taylor Easterling & Co.; L. K. Laney, The Texas Company; William D. Moorer, Mooriane Co.; Clay Briggs, Cities Service Gas Co.; R. W. Hendee, Oklahoma Natural Gas Corp.; John Shenefield, Apache Gas Co.; G. W. Fowler, Williams Brothers, Inc.; Edward Rollins, Bureau of Mines.

Subcommittee on Compressors: George Bard, Empire Oil & Refining Co.; M. Jarvis, Lone Star Gas Co.; Tracy Clarke, Ingersoll-Rand Co.; T. F. Hudgins, Cooper-Bessemer Corp.; D. K. Hutchcraft, Clark Brothers; M. R. Smith, Worthington Pump & Machinery Corp.; Richard Battle, National Supply Co.; D. O. Barrett, Gypsy Oil Co.; M. R. Lankford, Carter Oil Co.; Emby Kaye, Skelly Oil Co.; J. E. Devine, consulting engineer; W. A. Melton, Shaffer Oil & Refining Co.; M. R. Riney, Phillips Petroleum Co.; Ralph E. Davis, consulting engineer; D. W. McKay, Hope Engineering Co.

Production Committee: D. L. Trax, chairman, consulting engineer, Gypsy Oil Co.; D. B. Dow, chief engineer, Indian Territory Illuminating Oil Co.; C. D. Watson, chief engineer, Carter Oil Co.; R. M. Carr, petroleum engineer, Sinclair Oil Co.; H. M. Manley, gasoline engineer, Barnsdall Oil Co., secretary.

Gas Engine Subcommittee: D. L. Trax, chairman, E. E. Robbins, C. F. Camp Co.; D. K. Hutchcraft, Clark Brothers; Ben Lindsly, Bureau of Mines; Roy Meade, Meade Brothers; H. Wirshing, C. F. Camp Co.

Oil Engines Subcommitte: James Porter, chairman, Indian Territory Illuminating Oil Co.; F. W. Robson and J. R. Johnston, Carter Oil Co.; T. F. Hudgins, Cooper-Bessemer Corp.; Tracy Clarke, Ingersoll-Rand Co.; E. O. Bennett, Continental Oil Co.; C. L. Shirley.

Electricity Subcommittee: H. M. Manley, chairman, R. L. Middleton, General Electric Co.; D. M. McCrager, Allis-Chalmers Co.; W. C. Lane, Oil Well Supply Co.; W. C. McGraw, Westinghouse Electric & Manufacturing Co.; W. H. Stueve, Oklahoma Gas & Electric Co.

Steam Subcommittee: R. M. Carr, chairman, F. E. Bernsen, Lucey Products Co.; T. S. Loffland, Loffland Brothers; George A. Manahan, M. R. Cartwright, Prunty Drilling Co.; George Noland, Barnsdall Oil Co.

Committee on Unfired Pressure Vessels: A. J. Schlosser, chairman, Barnsdall Oil Co.; R. R. Dean, Independent Oil & Gas Co.; E. R. Filley, The Texas Company; H. F. Brindel, Gypsy Oil Co.; James Thompson, Mount-Cooper Boiler Works; C. F. Camp, Camp, Morgan Co.; G. A. Morgan, Camp, Morgan Co.; J. R. McWilliams, Skelly Oil Co.; E. L. Peck, Empire Gas & Fuel Co.; G. A. Wooden, Sinclair Oil & Gas Co.; M. H. Kotzebue, Tulsa Boiler & Machinery Co.; G. C. Wells, National Tank Co.; W. C. Henderson, boiler inspector for the city of Tulsa; J. F. Walker, National Tank Co.

This group has broken its work down into three subcommittees on all riveted construction: G. A. Wooden, chairman; all welded construction: H. F. Brindle, chairman; combined riveted and welded construction: R. R. Dean, chairman. The personnel of these subcommittees is being developed.

Committee on the Fixed and Operating Charges for Motor Driven Oil Pipe Line Pumping Stations; W. H. Stueve, chairman, Oklahoma Gas & Electric Co.; J. B. Thomas, the Texas Power & Light Co.; William Parkerson, Public Service Co. of Oklahoma; F. A. Graham, Kansas City Power & Light Co.; Fred Thilenius, the Prescott Pump Co.; R. T. Roberts, Goulds Pump Co.; Olaf LaCour Olsen, Worthington Pump & Machinery Co.; A. N. Horne, Empire Pipe Line Co.; Oscar Wolfe, Texas Pipe Line Co.; H. M. Stevenson, Humble Pipe Line Co.; B. P. Sibole, Sinclair Pipe Line Co.; W. S. Baugh, Kansas Gas & Electric Co.

Committee on Automatic Pipe Line Pumping Stations: William G. Heltzel, chairman, Sinclair Pipe Line Co.; William Parkerson, W. H. Stueve, W. S. Baugh, F. A. Graham, J. B. Thomas, R. T. Roberts, Olaf LaCour Olsen, W. D. Smith, Worthington Pump & Machinery Corp; J. J. McGregor, Byron-Jackson Co.; Fred Thilenius, J. N. Hunter, Gulf Pipe Line Co.; A. N. Horne, C. F. Guinn, Tidal Pipe Line Co.; B. P. Sibole, Sinclair Pipe Line Co.; F. E. Warterfield, Oklahoma Pipe Line Co.; J. H. Tubbs, Shaffer Oil & Refining Co.; Oscar Wolf, Texas Pipe Line Co.; T. D. Williamson, Petroleum Electric Co.; H. D. Bennett, Mid-Continent Petroleum Corp.; H. M. Stevenson, Humble Pipe Line Co.; Roy Lewis, Prairie Pipe Line Co.; Walter Meyer, Atlantic Pipe Line Co.; J. L. Culbertson, Texas Empire Pipe Line Co.; R. P. Bascom, Shell Pipe Line Co.; H. D. Levy, Magnolia Pipe Line Co.; M. D. Harris, Tidal Refinery Co.; F. A. Stivers, Texas Empire Co.; R. E. Sleppy, Barnsdall Oil Co.; R. T. Conwell, Independent Oil & Gas Co.; F. E. Richardson, Whelton & Thompson Co.; J. K. McGoldrick, Texas Pipe Line Co.; W. C. Raymond, Texas Pipe Line Co.; F. R. McKee, Transcontinental Oil Co.; Foster M. Pool, Brown Instrument Co.; M. R. Jones, General Electric Co.

The mustering of this array of engineering talent by the American Society of Mechanical Engineers promises to develop a wealth of engineering data which should be helpful in effecting much needed economies in various phases of petroleum practice.

# HOUSE COMMITTEE HEARS OIL TARIFF ADVOCATES

(Continued from Page 40)

for oil has been discovered. Twenty-five years ago we conserved our coal and timber and now we have very little use for them. Steel and concrete have taken the place of the timber."

Mr. Franklin declared that the production of 500,000 bbls. from the little wells that could not survive if foreign oil is admitted into this country free of duty are the backbone of the industry because they are the ones that have long life and the gushers are reduced in output until they join the group of smaller wells.

Mr. Franklin said foreign crude can be landed in New York harbor for 75 cents a barrel while it costs $1.70 a barrel to produce oil in the Mid-Continent and the pipe line charge from the Mid-Continent to New York is 76 cents a barrel.

The speaker in reply to a question said that our exportation of more oil than we import should have no bearing on this discussion and Mr. Bacharach seemed to think that it was a very important fact in connection with the demand for a tariff on crude oil.

Referring to conferences the delegates had with the President and members of the Cabinet, Mr. Garner asked for information in respect to what had been said at those conferences.

"I am not in a position to quote the President," said Mr. Franklin.

Mr. Garner said the committee had power to report a bill providing a tariff on oil without attaching it to the tariff bill. He said they could report such a bill on its own merits.

**Oil Under Dog, Says Garner**

"In this case," said Mr. Garner, addressing his remarks to Mr. Franklin, "you seem to be the under dog; I do not see why we should not consider these things separately. You should bring pressure to bear on the people who can influence this committee," this last remark calling forth laughter as the audience interpreted it as a reference to the administration.

The chairman remarked that he did not believe Mr. Garner would give his support to House Bill 9,494 placing crude oil in the dutiable list, but Mr. Garner replied that he would give that bill his entire support.

There was considerable discussion about the cost of delivering crude oil from Venezuela at New York harbor at 75 cents a barrel.

Mr. Rainey introduced a discussion in respect to the effect of a tariff on the price of gasoline, but Mr. Franklin insisted it would have no such effect as shown by the fact that the prices on the Atlantic Coast are higher than in the West, although the Atlantic Coast has the advantage of the cheap imported product. Replying to a question, Mr. Franklin said the price of Pennsylvania oil had been fixed at $3 a barrel, or more than twice the price in the Mid-Continent, as an arbitrary action to avoid closing down the small wells of that State and he approved that policy.

Replying to Mr. Rainey, he said the price was fixed at 26 Broadway for crude and refined products.

"We sell our oil at the posted price

and we have no say about what the price is to be," said Mr. Franklin.

Mr. Rainey: "This is getting interesting now."

It was then that Mr. Rainey suggested he was glad the delegates appreciated being given a hearing by the committee as he said that was all they would get.

**Tariff Telegram Filed**

Shortness of the time allowed for the hearing curtailed Mr. Franklin's remarks and Earl Calloway of Amarillo, Tex., inserted in the records telegrams from W. S. Farish, president of the Humble Oil & Refining Co., subsidiary of the Standard Oil Co. of New Jersey, discussing the reasons for the price cut in January, in which reference was made to the quantity of oil exported being in excess of the quantity imported.

James H. Gardner, president of the Gardner Petroleum Co., Tulsa, exhibited charts showing the increase in the production of oil in the United States from 1859 to the present time. He said in view of events, the statements of geologists in respect to the early depletion of oil had become simply ridiculous because they had based their judgment upon known petroleum deposits only.

J. Berry King, attorney general of Oklahoma, said he was present as a representative of the State of Oklahoma and he reviewed agricultural and industrial developments of that State, all of which he declared were the direct or indirect result of the oil industry.

In closing the hearing Chairman Hawley said he would like to have placed in the record a statement of the comparative cost of the production of oil abroad and in the United States.

Former Representative Howard of Oklahoma said he would put in the record the prices of gasoline in 63 cities of the country.

During their stay in this city members of the delegation have been actively engaged in interviewing Senators and Representatives and their committee headed by Mr. Franklin made statements to President Hoover in the presence of Secretary Wilbur, Secretary Hurley and Secretary Lamont.

## MOVE MID-CONTINENT GASOLINE BY PIPE LINE

(Continued from Page 39)

cluding the great inland system of the Great Lakes and the Mississippi River and its tributaries and improved highways which have permitted a greater use of truck trains for deliveries has given additional strength to the position of the refiners who have plants in a position to take advantage of these opportunities. Now the pipe line to carry gasoline, kerosene and other refined products from the refinery and water terminals promises to still further increase the advantage of these companies.

**Mid-Continent Situation**

Mid-Continent refiners who have studied this development realize its importance as a direct factor in their plant profits and one executive has stated the "Mid-Continent refining industry has the choice of either moving its plants to points better located as to the consuming market or devise means of lowering transportation charges from the plants they are now operating."

The first method would involve junking present refineries and building new plants and also providing for crude oil supplies from the Mid-Continent by pipe line or water or a combination of the two. This plan has been followed by some of the larger companies as is evidenced by the large increase in refinery capacity at coastal points and in the Middle West.

**Gasoline Line Practicable**

Using pipe lines and boats to transport refined products rather than crude oil is now believed by many to offer a more practical solution to the transportation problem of the inland refiners not only in the Mid-Continent but in other areas.

The objections offered to this plan in the past were largely of a mechanical nature. It was thought that the pipe line movement of gasoline and kerosene over long distances was not feasible due to difficulties in pumping, evaporation losses and leakage in the pipe line and storage facilities and the relatively small quantity that would be available for shipment.

The art of pipe line transportation has advanced rapidly in recent years as has all the other operating phases of the oil industry and those in a position to know state that the economical movement of gasoline and kerosene by pipe line does not present any insurmountable difficulties for the pipe line operator. As to the quantity of material available practically all of the large refiners now have sufficient refinery capacity and marketing facilities within a given area to operate a line of 10,000 to 30,000-bbl. capacity throughout the year.

In this connection it is pointed out that improvements in refinery operation are constantly increasing the quantity of refined material that is available for transportation. A few years ago, gasoline yields of 35 to 40 per cent even with high gravity crudes were exceptional. Now yields of more than 60 per cent are not unusual. Add to this the kerosene yields and the refined distillates suitable for furnace oils and it is estimated that as high as 90 per cent of a barrel of crude oil after being refined would be available for pipe line movement.

**Common Carrier**

The common carrier aspect of pipe line transportation fits into this picture of gasoline movement, particularly in the Mid-Continent Field. It is suggested that one or more lines could tap all the principal refining centers in the Mid-Continent. Tariffs could be established and even the smaller refiners could tender shipments from time to time, the aim of the pipe line owners being to keep their lines operating as near capacity as possible in order to lower costs.

As to rates, no gasoline line having yet been operated, it is not possible to give accurate figures on operating costs. The tariffs published by the Tuscarora Pipe Line Co. indicated that the rates would be from 25 to 60 per cent under the rail rates for similar distances, the greatest savings being in the longer hauls.

**Eliminate Rail Hauls**

One large Mid-Continent refinery operator who is considering the desirability of a gasoline line from its refinery states his company would be able to eliminate all rail hauls to many of its service stations and jobber customers. Bulk stations would be established along the line at points near the large consuming areas. The gasoline and kerosene would be moved to retail stations and dealer accounts by truck and combination truck and trailers from the bulk stations.

Another operator believes that a line to a Mississippi River point would be feasible. The refined products could be moved by water to Mississippi, Ohio and Missouri River points from the pipe line terminal and then distributed inland either by rail or tank wagon hauls.

Finally, one of the most optimistic supporters of pipe line lines for refined products foresees the time when this method of distribution will be similar to the present natural gas system with large truck lines connecting to laterals serving all the principal consuming points.

## SUPERINTENDENTS MAKE VISIT TO HUMBLE PLANT

(Continued from Page 42)

special equipment were necessary to permit this.

Approximately 500 bbls. of finished bright stock will be produced daily in this new plant. Additions and revisions are also being made in the equipment for the manufacture of overhead high viscosity oils from Gulf Coast crudes by vacuum distillation and the output of this equipment, when completed, will also approximate 500 bbls. daily.

The 12 Standard of New Jersey and 16 Humble company men in the party who made the tour of inspection and who appear in the accompanying photograph follow:

Standard of New Jersey—Dr. M. R. Meacham, superintendent, Bayway refinery; Dr. N. E. Loomis, technical service division, Delaware company; W. A. Eberle, Eagle Works; C. L. Waite, engineering department, New York; S. J. Tydeman, superintendent, Bayonne refinery; J. F. Ewing, superintendent, Baltimore; G. W. Thompson, superintendent, Parkersburg; J. E. Lenhardt, superintendent, Charleston, S. C.; E. H. Barlow, engineering department, Bayway; S. P. Keator, accounting department, New York; D. L. Ferguson, superintendent, Everett, Mass.; L. Link, superintendent, Baton Rouge, La.

Humble Oil & Refining Co.—J. L. Finley, general superintendent, Houston; C. M. Dennison, superintendent, Chilton; C. M. Bell, superintendent, San Antonio; R. S. Clark, Houston; R. E. Powell, superintendent, Baytown; J. J. Harrington, Baytown; E. Voss, Houston; W. H. Barber, superintendent, McCamey; James Harrop, Houston; F. N. Read, Baytown; Brian Meade, Houston; H. C. Wiess, vice president and general manager, Houston; S. P. Coleman, head of research and development, Houston; G. L. Farned, superintendent, Ingleside; M. L. Snyder, Baytown; R. X. Cook, superintendent, Neches.

## GAS WASTE IN CALIFORNIA

SAN FRANCISCO, Calif., Feb. 10.—Total natural gas production in California during 1929 amounted to 558,000,000,000 feet, of which approximately 42 per cent, or 234,360,000,000 feet was wasted, according to Claude C. Brown, gas administrator for California Railroad Commission.

## WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 68)

**CASTRO COUNTY**

| | |
|---|---|
| Colorado O. & R. Co.'s No. 1 Slemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. | Rig blown down. |
| Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. | S.D. 510 ft. for csg. |

**CHILDRESS COUNTY**

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|---|---|
| Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. from NE, Sec. 580, Blk. H, W.&N.W. Sur. | Fishing 267 ft. |
| C. L. Sloane et als' No. 1 B. P. Smith, Sec. 49, F. P. Knott lands | S.D. 4,675 ft. |

**COCHRAN COUNTY**

| | |
|---|---|
| Westbrook et als' No. 1 Slaughter, 400 ft. S and E, Labour 67, League 118, Knox Co. School lands | Drlg. 4,500 ft. |

**DONLEY COUNTY**

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|---|---|
| Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur. | T.D. 3,006 ft; contract depth. |
| Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. | S.D. 3,200 ft. |

**GRAY COUNTY**

| | |
|---|---|
| Adams Oil Co.'s No. 4 Morse, 330 ft. S and W, NE cor., Sec. 3, Blk. 26, H.&G.N.R.R. Sur. | S.D. 2,495 ft; S.O. |
| Camel Oil Co.'s No. 2-B Harrah, 330 ft. N and E, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. | S.D. 950 ft. |
| Constantine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. | S.G. 2,580-2,604 ft; S.D. 2,614 ft. |
| Danciger et als' No. 11 Jackson, 830 ft. S, 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. | T.D. 2,906 ft. |
| Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. | S.D. 2,505 ft. |
| Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. S, 286 ft. E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur. | T.D. 2,588 ft. |
| Danciger O. & R. Co.'s No. 2 Smith, 330 ft. S and E, SE, Blk. 3, I.&G.N.R.R. Sur. | T.D. 3,084 ft; cmt. 8¼-in. csg. |
| Danciger O. & R. Co.'s No. 1 Williams, 330 ft. N, 330 ft. E, S½ NW | Estimated 15,000,000 ft. gas 2,610-70 ft; S.D. 2,720 ft. |
| Dixon Creek Oil Co.'s No. 1 Harrah, 330 ft. each way from NW cor. SE NE, Sec. 150, Blk. 3, I.&G.N. R.R. Sur. | Rig. |
| Dunlop's No. 4 Morse, 330 ft. N and E, SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. | T.D. 2,431 ft. |
| Folle: Pet. Corp.'s No. 1 Hood, 330 ft. S and W of W 80 ac., SW, Sec. 32, Blk. 3, H.&G.N.R.R. Sur. | Rigging up. |
| Sines & Reiger's (formerly Eslick et als') No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. | S.D. 3,206 ft. |
| Gardner Bros. and Collins' No. 2 Saunders, 955 ft. S, 330 ft. E of W 68 ac., E½, J. G. Eustice Sur. | Location. |
| Grallup et als' No. 1 Morse, 330 ft. each way NE cor. SE, Sec. 3, Blk. 26, H.&G.N.R.R. Sur. | Spudding. |
| Gulf Prod. Co.'s No. 1 Barrett, 967 ft. N and E, SW cor. NE, Sec. 131, Blk. 3, I.&G.N.R.R. Sur. | S.D. 2,550 ft. |
| Gulf Prod. Co.'s No. 1 Bowers, 967 ft. N and E, SW cor. SE, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. | Location. |
| Gulf Prod. Co.'s No. 1 Combs, 330 ft. N and W, SE cor., Sec. 38, Blk. 3, I.&G.N.R.R. Sur. | Location. |
| Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. | Temp. abd. at 3,163 ft. |
| Gulf Prod. Co.'s No. 3 Saunders, 330 ft. S, 990 ft. E. NW cor. its 130-ac. lease out of SW cor., Sec. 40, Blk. 3, I.&G.N.R.R. Sur. | S.D. 3,050 ft. |
| Haymer O. & G. Co.'s No. 1 Morse, 330 ft. each way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G. N. Sur. | S.D. 2,100 ft. |
| Herragan Oil Co.'s No. 1 Bradford, 330 ft. N, 990 ft. E, Sec. 123, Blk. B-2 | First S.G. 2,475-80 ft; 15,000,000 ft. gas 2,515-40 ft; S.O. 2,932-50 ft; S.D. 3,140 ft. |
| Humble O. & R. Co.'s No. 1 Combs-Worley, 330 ft. S and W, N½ SE, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. | Drlg. 1,615 ft. |
| Lyon et als' No. 1-A Morse, 330 ft. S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. | Rig. |
| Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.T.N. Sur. | Spudded and S.D. |
| Magnolia Pet. Co.'s No. 4 Harrah, 330 ft. each way, SW cor. NW, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. | Drlg. 650 ft. |
| Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. | Rig on ground. |
| Magnolia Pet. Co.'s No. 5 Magnolia, 990 ft. N, 330 ft. E, SW cor., Sec. 14, Blk. 3, I.&G.N.R.R. Sur. | Rig on ground. |
| McIlroy Oil Co.'s No. 1 Arnold, 330 ft. each way, NW cor. NW, Sec. 139, Blk. 3, I.&G.N.R.R. Sur. | T.D. 2,475 ft; cmtd. 8¼-in. csg. 2,475 ft. |
| McMan O. & G. Co.'s No. 7 Palmer, 990 ft. S, 930 ft. W, NE cor. of E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N.R.R. Sur. | Drlg. 2,730 ft. |
| Mid-Continent Pet. Corp.'s No. 1 Laugham, 330 ft. S and W, W 231 ½ac. of N 310½ ac., Sec. 1, Blk. B-2, H.&G.N. Sur. | Location. |
| Operators Royalty Co.'s No. 1 Eddington, 330 ft. each way, NE cor. NW, Sec. 34, Blk. B-2, H.&G.N.R. R. Sur. | Rig. |
| Oil Operators' No. 1 Bowers, 330 ft. N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. | Show oil and gas 2,400-17 ft; S.O. 3,036-55 ft; first gas 2,483 ft; increase at 2,500 ft., 2,544 ft. and 2,950 ft; S.D. 3,090 ft. |
| Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N, 330 ft. W, SE, W 90 ac., Sec. 30, Blk. B-2, H.&G.N. Sur. | S.D. 884 ft; spraying 5 bbls. oil per hr; T.P. 2,860 ft; S.D. 2,-900 ft. |

Phillips Pet. Co.'s No. 6 Jackson, 330 ft. N, 990 ft. E line, S½ NE, Sec. 88, Blk. B-2, H.&G.N.R.R. Sur. ... T.D. 3,030 ft.
Prairie O. & G. Co.'s No. 2 Langham, 330 ft. S and E. NW cor., W 230.3 ac., of S 316.5 ac. of Sec. 1, Blk. B-2, H.&G.N. Sur. ... Location.
Queen Oil Co.'s No. 1 Lovett, 330 ft. N and W, W½ NE, Sec. 35, Blk. B-2, H.&G.N.R.R. Sur. ... Drlg. 2,910 ft.
Ray et als' No. 1 Noble, 240 ft. S, 330 ft. W line, W 80 ac., SW, Sec. 10, Blk. A-6, H.&G.N. Sur. ... S.G. 2,708 ft; S.D. 2,912 ft.
Rieger & Steckoll's No. 1 Bohr, 330 ft. S and E, Sec. 37, Blk. B-3, H.&G.N. Sur. ... T.D. 3,110 ft; 1,000 ft. wtr. 3,-015 ft.
Robertson & Devore's No. 1 Saunders, 330 ft. S and W, E½ NW, Sec. 40, Blk. 3, H.&G.N.R.R. Sur. ... T.D. 2,971 ft; 1,000 ft. oil 2,960-71 ft.
Shamrock O. & G. Co.'s No. 1 Taylor, 330 ft. each way out of NE cor. NW, Sec. 1, Blk. 2, H.&G.N. Sur. ... S.G. 2,245-85 ft; 1,000,000 ft. gas 2,805-10 ft; S.D. 3,110 ft.
Smith & McDaniel's No. 1 Noble, 330 ft. N, 943 ft. E, SW NE, Sec. 49, Blk. A-9, H.&G.N.R.R. Sur. ... Drlg. 2,500 ft.
St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W, NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ... Spudded and S.D.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ... Spudded and S.D.
Stover and Shell's No. 1 Saunders, 990 ft. N, 330 ft. E, of N 100 ac. of W 149 ac., Sec. 3, B.&B. Sur. ... 4,000,000 ft. gas 2,258-2,370 ft; T. D. 2,518 ft.
Southern Expltn. Co.'s No. 1 Noel, 330 ft. S and W, W½ NW, Sec. 138, Blk. 3, I.&G.N.R.R. Sur. ... Drlg. 1,545 ft.
The Texas Co.'s No. 1 Bell, 2,310 ft. N, 2,640 ft. W, Sec. 133, Blk. B-2, H.&G.N.R.R. Sur. ... Cmtng. 10-in. csg. 1,370 ft.
The Texas Co.'s No. 8 Cook-Faulkner, 1,158 ft. N, 1,835 ft. W, SE cor., Sec. 29, Blk. B-2, H.&G.N.R.R. Sur... Sprayed 300 bbls. first 24 hrs; T.P. 2,675-78 ft. and 2,740 ft; flowing 345 bbls. per day; fishing 2,835 ft.
The Texas Co.'s No. 6 Combs-Worley, 330 ft. S and E, NW cor. S½ SE, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. .. Drlg. 2,610 ft; 1,000,000 ft. gas 2,585-2,610 ft.
The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ... S.D. 2,610 ft.
The Texas Co.'s No. 1 Wright, 330 ft. S and W, SE. Sec. 13, Blk. 3, I.&G.N.R.R. Sur. ... Location.
Travis & Rieger's No. 1 Mackie, 330 ft. N and E, Sec. 114, Blk. B-2, H.&G.N.R.R. Sur. ... 16,000,000 ft. gas; T.P. 2,685 ft; rig burned 3,343 ft.
Travis et als' No. 1-B Webb, 330 ft. N and W, Sec. 61, Blk. 25, H.&G.N.R.R. Sur. ... T.D. 2,614 ft; T.P. 2,610 ft; 300 ft. oil in hole.
Trippiehorn Oil Co.'s No. 1 Morse, 330 ft. S and W, SW SE, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ... S.D. 1,950 ft.
Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. N and W of W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N.R.R. Sur. Drlg. 1,240 ft.
Wright Wilson, trustee's No. 1 Chapman, 175 ft. S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ... S.O. 2,685 ft; S.D. 2,693 ft.
Wilcox-Pampa Oil Co.'s No. 10 Combs-Worley, 330 ft. S and W, NE cor. SW SW, Sec. 35, Blk. 3, I.&G. N.R.R. Sur. ... S.D. 2,820 ft; 32,000,000 ft. gas and 90 bbls. oil first 7 hrs; T.P. 2,811-13 ft.

**HARTLEY COUNTY**

Dana O. & G. Co.'s No. 1 Fritz, C NE, Sec. 81, Blk. 44, H.&T.C.R.R. Sur. ... Drlg. 2,691 ft.

**HOCKLEY COUNTY**

World Oil Co.'s No. 1 Ellwood, 320 ft. N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ... Drlg. 4,900 ft.

**HUTCHINSON COUNTY**

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H.& T.C. Sur. ... S.O. and wtr. 3,010-11 ft; S.D. 3,-095 ft.
Alexander et als' No. 1 Johnson, 1,709 ft. E, 330 ft. N of N 80 ac. of E½ E. T. Tomlinson Sur. ... Spudding.
Barnsdall Oil Co.'s No. 4 Prichard "A," C SW NW, Sec. 3, Blk. 4, D.&S.E. Sur. ... Drlg. 760 ft.
Continental Oil Co.'s No. 1 Johnson-E, 330 ft. N and E, SW cor. SE, Sec. 5, Blk. I, B.&B. Sur. ... Location.
Danciger O. & R. Co.'s No. 1 Cheatham, 330 ft. N and E SW SE, Sec. 38, Blk. Y, A.&B. Sur. ... Rigging up rotary.
Danciger O. & R. Co.'s No. 3 Moore, 330 ft. S and E, NW W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ... 1,000 ft. oil in hole; T.P. 3,003-26 ft; S.D. 3,020 ft.
Danciger O. & G. Co.'s No. 4 Moore, 330 ft. N and E, SW cor. W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur... Drlg. 2,547 ft.
Dixon Creek Oil Co.'s No. 1 Cheatham, 990 ft. E, 330 ft. S, N½ SE, Sec. 38, Blk. Y ... Rigging up.
Dixon Creek Oil Co.'s No. 1 Johnson Bros., 50 ft. S, 330 ft. W, NE cor. E 80 ac., J. Gammon Sur. ... Drlg. 400 ft.
Gulf Prod. Co.'s No. 1 W. E. Herring, 1,320 ft. N, 1,-395 ft. E, SW cor., Sec. 5, Blk. J, H.&G.N. Sur. ... Location.
Gulf Prod. Co.'s No. 1 Herring-A, 990 ft. S, 990 ft. W, NE cor., George Bazon Sur. ... Location.
Huey et als' No. 3 Smith et al, 330 ft. N, 660 ft. W, S 40 ac., of E 100 ac., SE, Sec. 12, Blk. Y ... S.D. 2,702 ft.
Midwest Explin. Co.'s No. 1-B Pitcher, 330 ft. E and S line, W½ SW, Sec. 19, T.C.R.R. Sur. ... Rig.
Phillips Pet. Co.'s No. 2 Cheatham, 330 ft. S and E. NW cor. SE SE, Sec. 38, Blk. Y ... Location.
Phillips Pet. Co.'s No. 1 Johnson-Juanita, 330 ft. N and W, SE cor. W½, Sec. 5, Blk. I, B.&B. Sur. ... Location.
Phillips Pet. Co.'s No. 1 Johnson-Trammel, 930 ft. N, 330 ft. W, SE cor. W½ NW, Sec. 38, Blk. Y ... Location.
Phillips Pet. Co.'s No. 1 Johnson-Mayer, 990 ft. N and 990 ft. W line, NE, Sec. 37, Blk. Y, A.&B. Sur. ... Drlg. 270 ft.
Phillips Pet. Co.'s No. 1 Johnson-Rudy, 330 ft. W, 330 ft. S, SW SW, Sec. 30, Blk. Y, A.&B. Sur. ... Building rig.
Reliance O. & G. Co.'s No. 2 Sanford, 330 ft. S and E, NW W½ of N 80 ac. of S 320 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ... T.D. 2,938 ft; top lime pay 2,935-38 ft; I.P. 50 bbls; 10,000,00 ft. gas.
Skelly Oil Co.'s No. 1 Byrd, 2,640 ft. E line, 3,960 ft. S line of W 3,094 ac., D. Luce Sur. ... Drlg. 1,950 ft.
Spurlock et als' No. 1-A Christian, 440 ft. S, 300 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ... Location.
The Texas Co.'s No. 4 J. L. Moore, 330 ft. S and W, NE cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ... T.P. 3,035-38 ft; swbd. 105 bbls; T.D. 3,095 ft; increase at 3,073-83 ft; I.P. 105 bbls.
The Texas Co.'s No. 5 Moore, 330 ft. N and W, SE cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ... Location.
Texarado Oil Co.'s No. 2 Sanford, 330 ft. S, 990 ft. W, NE cor. N 80 ac., of S 160 ac., Sec. 83, Blk. 46, H. &T.C.R.R. Sur. ... Drlg. 400 ft.

**LAMB COUNTY**

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ... S.D. 4,128 ft.

**LIPSCOMB COUNTY**

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ... S.D. 3,750 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ... Fishing 4,954 ft.

**LUBBOCK COUNTY**

Center Oil Co.'s No. 1 Bowles Ranch ... Small S.O. 1,133-40 ft; S.D. 4,-167 ft.

**MOORE COUNTY**

Canadian River Gas Co.'s No. 1-C Sneed, 660 ft. N and E, SW, Sec. 46, Blk. 6-T, T.&N.O.R.R. Sur. ... U.R. 8-in. csg. 1,830 ft.
Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ... 2,000,000 ft. gas 1,550-65 ft; S.D. 3,090 ft; 6,000,000 ft. gas.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ... Location.
Operators Royalty Co. et als' No. 1 Jones, 330 ft. S line, 330 ft. E line, SW SW, Sec. 164, Blk. 3-T, T.&N.O.R.R. Sur. ... Drlg. 2,084 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ... Fishing 2,455 ft.

**MOTLEY COUNTY**

Explin. Co.'s No. 6 Matador, 330 ft. N line, 330 ft. E line, Sec. 132, Blk. M ... S.D. 4,011 ft.
Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ... S.D. 580 ft.

**POTTER COUNTY**

Canadian River Gas Co.'s No. 1-N Masterson, 330 ft. E, 1,320 ft. S, Sec. 17, Blk. 3, G.&M.R.R. Sur. ... Location.

**RANDALL COUNTY**

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 .. S.D. 1,250 ft.

**ROBERTS COUNTY**

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ... T.D. 5,992 ft; shot 10 qts. 5,270-93 ft; S.O. 5,288 ft; C.O.

**WHEELER COUNTY**

Burnett & Hosher's No. 1 Hosher, 330 ft. N and W, SW SE, Sec. 63, Blk. 17, H.&G.N.R.R. Sur ... S.G. 1,455 ft; drlg. 1,710 ft.
Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N.R.R. Sur. ... S.D. 815 ft.
Edwards et als' No. 1 Cates, C NW NE, Sec. 73, Blk. 23, H.&G.N. Sur. ... Drlg. 1,350 ft.
Lela O. & G. Co.'s No. 1 Williams & Laycock, 330 ft. S, 209 ft. W, W½ NW, Sec. 20, Blk. A-8, H.&G.N. Sur. ... 5,000,000 ft. gas 1,932-2,025 ft; drlg. 2,075 ft.
Lone Star Gas Co.'s No. 1 Brown, C NW NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ... Location.
Lone Star Gas Co.'s No. 3 Linkey, 330 ft. S and W, NE cor., Sec. 106, Blk. 23, H.&G.N.R.R. Sur. ... Location.
Lone Star Gas Co.'s No. 1 Ridinger, C NW NW, Sec. 65, Blk. 17, H.&G.N. Sur. ... Rig on ground.
Martin & Debous' No. 3 Close, C NW NE, Sec. 83, Blk. 23, H.&G.N.R.R. Sur. ... Drlg. 1,500 ft; 2,000,000 ft. gas 1,-290-3,000 ft.
Murchison & Fain's No. 1-A Cooper, 380 ft. W, 330 ft. S, NW, Sec. 80, Blk. 23, H.&G.N.R.R. Sur. ... T.D. 1,455 ft.
Upham Gas Co.'s No. 5 Close-Gooch, 30 ft. N, 660 ft. E, SW cor. SW NW, Sec. 81, Blk. 23, H.&G.N.R. R. Sur. ... Location.
Wischkamper et als' No. 2 Brown, C SE NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ... Machine set up.
Wischkamper et als' No. 2 Curry, C NW SE, Sec. 53, Blk. 23, H.&G.N. Sur. ... U.R. 8¼-in. csg. 1,563 ft.

## WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 67)

Simms and Atlantic's No. 1 University, 2,310 ft. from N, 990 ft. E, Sec. 39, Blk. 30, University Land ... Top salt 1,970 ft.; shut down 1,932 ft.
Warner-Quinlan Co.'s No. 8 University, 990 ft. S and 330 ft. W of NE cor. of SW, Sec. 39, Blk. 30, University Land ... Rigging up.

**CROCKETT COUNTY**

Empire Gas & Fuel Co.'s No. 1 Shannon, 330 ft. from N and E of Sec. 42, T.C.R.R. Sur. ... Top salt 1,130 ft.; top lime 2,468 ft.; top pay 2,615 ft.; total depth 2,660 ft.; 1 bbl. oil per hour; shot 50 qts. from 2,615-30 ft.; bailing 25 bbls. oil and 8 bbls. water per day.
Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur. ... Shut down 1,400 ft.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur... C. O. 550 ft.

**CULBERSON COUNTY**

Grisham & Hunter Oil Corp.'s No. 1 Seay, 330 ft. from S and W of Sec. 16, Blk. 59, Twp. 7, T.&P.R.R. Sur. .. Drlg. 2,325 ft.
Hickey & Silver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 ... Small show oil 1,331 ft.; shut down 2,275 ft.; hole full water; elev. 3,874 ft.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ... Slight show oil 740 ft.; shut down 875 ft.
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land ... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; shut down 3,508 ft.

**ECTOR COUNTY**

Anderson's No. 1 fee, 1,320 ft. E along N line, Sec. 19 and 150 ft. N at right angles with line, Sec. 18, Blk. B-16, Public School Land ... Moving in material.
Cosden Oil Co.'s No. 1-A University, 2,310 ft. from N. 440 ft. from E of Sec. 1, Blk. 35 ... Small show of gas 3,400-10 ft.; drlg. 3,495 ft.
Cosden Oil Co.'s No. 1 University-B, 1,650 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35 ... Top lime 1,095 ft.; est. 100,000 ft. gas at 3,335 ft.; total depth 3,678 ft.; flowed 1,707 bbls. 24 hours; pinched now to 150 bbls. per day.
C. P. Davis et al's No. 1 Hendricks, C SW Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur. ... Rigging up.
Humble Oil & Ref. Co.'s No. 2 Kloh-Rumsey-D, 2,310 ft. S and 440 ft. E of NW cor. of Sec. 7, Blk. 44, Twp. 3s, T.&P. Sur. ... Building rig.
Humble Oil & Ref. Co.'s No. 2 York, 990 ft. S and 440 ft. E of NW cor. of Sec. 16, Blk. 44, Twp. 3s, T.&P. Sur. ... Rigging up.
Humble Oil & Ref. Co.'s No. 3 York, 1,650 ft. S and 440 ft. E of NW cor. Sec. 16, Blk. 44, Twp. 3s, T.&P. Sur... Building rig.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ... Moving in material.
Landreth Prod. Corp.'s No. 1-A University, T NE Sec. 3, Blk. 35, 110 ft. E of No. 1-T ... Spudding.
Landreth Prod. Corp.'s No. 2-T University, 990 ft. from N and 330 ft. from E of Sec. 3, Blk. 35 ... Location.
Llano Oil Co.'s No. 1 Midland, 330 ft. N and W of Sec. 18, Blk. 44, Twp. 3s, T.&P.R.R. Sur. ... Drlg. 2,345 ft. in anhydrite and red beds.
R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor. Sec. 27, Blk. 44, T.&P.R.R. Sur... Location.

**EL PASO COUNTY**

Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur. ... Shut down 1,481 ft.

**EDWARDS COUNTY**

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ... Shut down 3,000 ft.

**FISHER COUNTY**

Cranfill & Reynolds' No. 1 Johnson, 440 ft. from N and 1,540 ft. from W of Sec. 3, Blk. R, Richardson Sur... Drlg. 515 ft.

Magnolia Pet. Co.'s No. 1 Lee, Sec. 357 2,310 ft. from N and 4,286 ft. from W ..... Drlg. 4,925 ft.
Mid-Kansas' No. 1 Stephens, Sec. 26, 1,800 ft. from N, 330 ft. E, El Paso County School Land ..... Shut down 4,005 ft.

**GAINES COUNTY**

Louisiana Oil & Ref. Co.'s No. 1 Ralph, 1,320 ft. from S and W of Sec. 7, Blk. A-28, Public School Land .... Drlg. 4,255 ft. in anhydrite.

**GARZA COUNTY**

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. ..... Location.
Pandem Oil Corp.'s No. 1 Stokes, 2,310 ft. N and E of SW, Sec. 32, Blk. 5, G.H.&H.R.R. Sur. ..... Total depth 3,018 ft.; show oil 2,908-18 ft.; plugged back to 2,938 ft.; cleaning out and plugging back to shut off water after 90-qt. shot from 2,908-28 ft.

**GLASSCOCK COUNTY**

Amerada Pet. Corp.'s No. 2 Coffee, 1,650 ft. S and 2,310 ft. E of NW cor. Sec. 22, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Location.
California Co.'s No. 3 Curie, 990 ft. S and 2,310 ft. W of NE cor., Sec. 219, Blk. 29, W.&N.W.R.R. Sur.. Showing oil from 3,022-31 ft., total depth 3,671 ft.; plugged back to 3,536 ft.
California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Derrick.
Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Show oil 970 ft.; drlg. 1,450 ft.
F. H. E. Oil Co.'s No. 1 Cox, 330 ft. from S and E of SW Sec. 8, Blk. 33, Twp. 2s, T.&P. Sur. ..... Location.
Kirby Pet. Co.'s No. 3 Baker, Sec. 23, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. W ..... Top pay 2,164 ft.; total depth 2,275 ft.; pumped 621 bbls. in 19 hours.
Simms Oil Co.'s No. 2 Coffee, Sec. 22, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. E ..... Drlg. 2,215 ft.; top pay 2,175 ft.; 500 ft. oil in hole.
Simms Oil Co.'s No. 3 Coffee, 990 ft. from N and 330 ft. from W of E half Sec. 22, Blk. 33, Twp. 2s ..... Drlg. 1,265 ft.
World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor. ..... Oil from 2,435-42 ft.; total depth 2,453 ft.; initial production 60 bbls. on pump.

**HOWARD COUNTY**

American Maracaibo Co.'s No. 4-A Settle, 1,940 ft. S and 330 ft. E of NW cor. Sec. 6, Blk. 32, Twp. 2s, T.&.S. Sur. ..... Shut down 208 ft.
California Co.'s No. 11 Roberts, Lease 2, 990 ft. N and 2,188 ft. W of SE cor. Sec. 137, Blk. 29, W.&N.W. R.R. Sur. ..... Drlg. 1,450 ft.; show oil 1,340-70 ft.
Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor. Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,456 ft.; sulphur water 1,433-46 ft.
Continental Oil Co.'s No. 7-C Chalk, 1,990 ft. S and 2,440 ft. W of NE cor. Sec. 140, Blk. 29, W.&N.W. R.R. Sur. ..... Location.
Empire Gas & Fuel Co.'s No. 4 Clay, 330 ft. N and 2,310 ft. W of SE cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur. ..... Fishing 1,455 ft.
Group No. 1 and Continental Oil Co.'s No. 2 Overton, 1,650 ft. from N and 2,310 ft. from E line of Sec. 5, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 2,140 ft.
Group No. 1 and Continental Oil Co.'s No. 3 Overton, 990 ft. from N and 330 ft. from E line of Sec. 5, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 2,055 ft.
McGinley-Sigler's No. 1 Hyman-B, 330 ft. S and W of NE cor. SW Sec. 89, Blk. 29, W.&N.W. Sur. ..... Drlg. 800 ft.
McGinley-Sigler's No. 1 Hyman-C, 330 ft. N and 990 ft. W SE cor. SE Sec. 93, Blk 29, W.&N.W.R.R. Sur. .... Location.
Merriwether's No. 1 Smith, 150 ft. from S. 2,490 ft. from W, Sec. 45, Blk. 33 ..... Drlg. 1,925 ft.
Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Set 10-in. casing; shut down 261 ft.
Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W, Sec. 5, Blk. 32, Twp. 2s ..... Top pay 2,480 ft.; total depth 2,519 ft.; plugged back 2,505 ft.; pumped 20 bbls., 15 per cent water, in 24 hrs.; may shoot.
Pure Oil Co.'s No. 3 Hooks, 2,440 ft. S, 1,036 ft. W. Sec. 140, Blk. 29, W.&N.W.R.R. Sur. ..... Total depth 1,890 ft.; 100 ft. oil in hole; top pay 1,842 ft.; estimated 15 bbls.
Schermerhorn Oil Co.'s No. 2 Kloh et al, 990 ft. from S and W of Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur. .... Top pay 2,117 ft.; total depth 2,539 ft.; swabbed 432 bbls. in 3 hrs.
Simms Oil Co.'s No. 2 Clay, 330 ft. from S, 2,310 ft. from W, Sec. 127, Blk. 29 ..... Oil show 1,570-80 ft.; fishing 2,-580 ft.
Ward Oil Co.'s No. 21 Roberts, 2,310 ft. N and 990 ft. E of SW cor. of Sec. 137, Blk. 29, W.&N.W.R.R. Sur..... Drlg. 2,410 ft.

**HUDSPETH COUNTY**

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ..... Drlg. 3,524 ft.
Western States Oil Co.'s No. 1 Moore, C SE. Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ..... Shut down 2,760 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Fishing 3,155 ft.

**IRION COUNTY**

Beesley's No. 1 Sawyer Cattle Co., 1,320 ft. N and E of SW cor., Sec. 3,032, Blk. 24, H.&T.C.R.R. Sur. ..... Set 6-in. casing 1,675 ft.; drlg. 1,684 ft.
Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 .. ..... Shut down 1,105 ft.
Cromwell et al's No. 1 Fuller, 2,134 ft. N and 631 ft. W of SE cor., Sec. 81, Blk. 1, H.&T.C.R.R. Sur. ..... Underreaming 8-in. casing 970 ft.; drlg 1,012 ft.
Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. ..... Show gas 7,656 ft.; set 4½-in. casing 7,550 ft.; encountered 2,400 ft. sulphur water at 7,818 ft.; plugged back with lead wool to 7,718 ft.; plugged back with cement to 7,668 ft.; shot 80 qts.
J. A. Starkweather's No. 1 Lindley, Sec. 1,160½, 900 ft. from S, 150 ft. from E, H.&T.C. Sur. on E ..... Drlg. 1,800 ft.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Shut down 7,174 ft.

**JONES COUNTY**

Continental Oil Co.'s No. 1 Phillips, 440 ft. from S and 330 ft. from E of Phillips 80-ac. tract, Sec. 16, Blk. 19, T.&P. Sur. ..... Shut down 2,923 ft.
Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW, Sec. 50, Blk. 18 ..... Rig.
Mid-Tex Oil & Gas Co.'s No. 1 King ..... Shut down 1,590 ft.
Shabeen et al's No. 1 King ..... 800 ft. fluid in hole; shut down 2,204 ft.; top pay 2,061 ft.; cleaning out after shot.
W. S. Ware's No. 2 Newman, 150 ft. from N and 2,090 ft. from E of Sec. 52, Blk. 18, T.&P.R.R. Sur. ..... Fishing 2,330 ft.

**KENT COUNTY**

California and Atlantic's No. 1 Wallace, 330 ft. from S and W, Sec. 60, Blk. G, W.&N.W.R.R. Sur. ..... Drlg. 2,335 ft.
White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H, H.&T.B. Sur... Shut down 273 ft.

**KIMBLE COUNTY**

C. L. Bryant et al's No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. ..... Shut down 800 ft.
McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ..... Fishing 1,650 ft.

**LOVING COUNTY**

California Co.'s No. 1 Allen, 330 ft. from SE and SW of Sec. 99, Blk. 1, W.&N.W. Sur. ..... Location.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Location.
California Co.'s No. 1 Reagan et al, 330 ft. from NE and NW, Sec. 84, Blk. 1, W.&N.W. Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 1 Kloh, 2,640 ft. N and W, Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur. ..... Total depth 3,650 ft.; plugged back to 3,360 ft.
Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudded 140 ft.; shut down.
Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur. Location.
Lockhart & Co.'s No. 5 Hubbard, 1,650 ft. SW of NE line and 330 ft. SE of NW line Sec. 83, Blk. 33, H.&T.C. ..... Drlg. 2,350 ft.

**LYNN COUNTY**

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. Sur. ..... Shut down 190 ft. for casing.
George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Top salt 2,140 ft.; oil show 1,580-90 ft.; hole full sulphur water 4,730 ft.; set 6-in. casing 4,733 ft.; shut down 5,040 ft.

**MENARD COUNTY**

Cromwell & Duffey's No. 2 Winslow, 250 ft. S and E of NW cor. NE of NE, Sec. 36, J. E. Gibson Sur. ..... Drlg. 890 ft. in shale.
I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W ..... 2½ bbls. water hourly, 1,100,000 ft. gas, 1,268 ft.

**MITCHELL COUNTY**

Magnolia Petroleum Co.'s No. 7 Mary Foster, 330 ft. from N and W line of Sec. 17, Blk. 29, Twp. 1s, T.&P.R.R. Sur. ..... Drlg. 590 ft.
Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ..... Standard rig.
Selger's No. 1 Scott, C of NE of SW, Sec. 36, Blk. 17, S.P.R.R. Sur. ..... Shut down 730 ft.
Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ..... Total depth 4,818 ft.; drlg. plug 4,818 ft.

**NOLAN COUNTY**

Gibson & Johnson's No. 1 Bond, 1,320 ft. from N and 1,980 ft. from E of Sec. 42, Blk. 20, T.&P. Sur. ..... Shut down 3,240 ft.

**PECOS COUNTY**

Amerada Pet. Corp.'s No. 1 University, 990 ft. from S, 2,310 ft. W, Sec. 13, Blk. 18, University Land ..... 3,000,000 ft. gas 991 ft.; shut down 1,723 ft.
Amerada Pet. Corp.'s No. 1-B University, 1,650 ft. from W and 990 ft. from S. Sec. 32, Blk. 18 ..... Location.
Arkansas Fuel Oil Co.'s No. 1-A University, 1,650 ft. from S and W of Sec. 32, Blk. 16 ..... 1,000,000 ft. gas 935 ft.; shut down 1,535 ft.; top pay 1,525 ft.; flowed 220 bbls., ¾-in. choke Feb. 6, 3 per cent water 1 per cent basic sediment.
Atlantic O. P. Co.'s No. 1 Shearer, 330 ft. from NW and SW Sec. 107, Blk. 10, E.Y.N.R.R. Sur. ..... Machine.
E. W. Bateman's No. 1 Cunningham, 330 ft. from S and W line of NE, Sec. 34, Blk. 11 ..... Shut down 1,691 ft.
Black & Dittman's No. 1 Pecos Valley, 160 ft. from SW and SE lines, Sec. 34, Blk. 3, H.&T.C.R.R. Sur. ..... Drlg. 1,100 ft.
Buell & Hagan's No. 1 Byrne, 990 ft. from N and 2,310 ft. from E of Sec. 54, Blk. 10, H.&G.N.R.R. Sur. .... Show gas 1,325 ft.; show oil 1,325-49 ft.; shut down 1,400 ft.; making an estimated 550,000 ft. gas after shot.
Cardinal Oil Co.'s No. 4 Toborg, 150 ft. from S and E of W half Sec. 539, Arnold & Barrett ..... Cleaning out 395 ft.
Cardinal Oil Co.'s No. 5 Toborg, 150 ft. from S. 432 ft. from E of W half Sec. 539, A.&B. Sur. ..... Cleaning out 324 ft.
Continental Oil Co.'s No. 6 University, 330 ft. S and 3,031 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Cellar.
E. W. Bateman et al's No. 1 Cordova, 3,490 ft. from N and 1,515 ft. from W, Sec. 29, Blk. 11, H.&G.N.R.R. Sur. ..... Shut down 1,694 ft.
Crosby Prod. & Royalty's No. 3 Smith, 330 ft. from S and W line, Sec. 24, Blk. 194 ..... Shut down 1,818 ft.; top pay 1,620 ft.; flowed 200 bbls. per day, 4 per cent water.
Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T. Sur. ..... Total depth 2,016 ft.
Cow oy Evans' No. 1 Pecos Valley, 1,307 ft. from SE line, 907 ft. from SW line to Sec. 36, Blk. 3, H.&T.C.R.R. Sur. ..... Location.
Dixie Oil Co.'s No. 1 McKinzie, 3,300 ft. from N and 2,025 ft. from W of Sec. 15, Blk. 604, G.C.&S.F. ..... Running 10-in. casing 888 ft.
Dixie Oil Co.'s No. 1 Toborg, 150 ft. from SW line of E half of Sec. 539, Arnold & Barrett Sur. ..... Fishing at 290 ft.
Freeman et al's No. 1 Pecos Valley, 150 ft. from NW and SW of NE half of S. Sec. 36, Blk. 3, H.&T.C. Sur. ..... Increase in water 1,535 ft.; shut down 1,708 ft.
A. M. Griffith's No. 1 Ferrenbach et al, 2,112 ft. from W line, 1,320 ft. from S line, Sec. 9, Blk. 603, G.C.&S.F. Sur. ..... Shut down 1,860 ft.
Geyer-Frates' No. 1 White-Baker, 2,310 ft. from N and E line of Sec. 29, Blk. Z, T.C.R.R. Sur. ..... Drlg. 1,815 ft.
Humble Oil & Ref. Co.'s No. 2 Cunningham, 2,640 ft. from N, 330 ft. from W line of Sec. 48, Blk. 11, H.&G.N.R.R. Sur. ..... Drlg. 690 ft.
Hussman Oil Co.'s No. 1 Esters, 960 ft. from N and 300 ft. E. Sec. 83, Blk. OW, T.M.R.R. Sur. ..... Drlg. 665 ft.
J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur. ..... Shut down 2,506 ft.
Landreth Prod. and Henshaw Bros.' No. 1-E University, 330 ft. N and W of SE cor. W half NE, Sec. 13, Blk. 18, University Land ..... Fishing 940 ft.
Landreth Prod. and Henshaw Bros.' No. 2-I University, 330 ft. S and W of NE, Sec. 24, Blk. 18, University Land ..... Cellar.
Martin A. Meyer et al's (formerly Mauch & Kroger) No. 1 Holmes, S half SW Sec. 5, Blk. 178, T.C. Sur. ..... Drlg. 1,640 ft.
Merrick-Bristow's No. 1 Neville, 330 ft. from S and W, Sec. 42, Blk. 12, H.&G.N.R.R. Sur. ..... Top salt 645 ft.; shut down 1,670 ft.; will deepen.
R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. Sur. .... Show oil 1,216 ft.; show oil 1,403 ft.; pulling 8-in. casing; shut down 1,615 ft.
Mid-Kansas Oil & Gas Co.'s No. 8 M. A. Smith, 250 ft. N and 1,005 ft. W of NE cor., Sec. 21, Blk. 194, G.C.&S.F. Sur. ..... Shut down 1,115 ft.
J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. Sur. ..... Fishing 875 ft.
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Shut down 1,712 ft.
Pecos Crude Oil Pur. Co.'s No. 4 Pecos Valley, 770 ft. from SW and 1,320 ft. from SE of W, Sec. 22, Blk. 10, H.&G.N.R.R. Sur. ..... Top salt 985 ft.; drlg. 1,260 ft.
Peren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C.R.R. Sur. ..... Location.

M. M. Rowan's No. 1 University, NE, Sec. 25, Blk. 16 ... Total depth 2,490 ft.; plugged back 1,815 ft.; machine moved off.

Phillips Pet. Co.'s No. 1 Byrne, 220 ft. out of NE cor. S 215 ac. Sec. 77, Blk. OW, University Land ..... Shut down 1,039 ft.

Phillips Pet. Co.'s No. 3 Monroe, 3,860 ft. from N and 660 ft. from E Sec. 39, Blk. 194, G.C.&S.F. ..... Cellar.

Phillips Pet. Co.'s No. 5 Ramsey, 330 ft. from N and 1,650 ft. from W of Sec. 17, Blk. 194 ..... Drlg. 115 ft.

Southern Crude Oil Pur. Co.'s No. 1 McKenzie, Sec. 10, Blk. 604 ..... Hole full sulphur water 775 ft.; drlg. 785 ft., lime.

Southern Crude Oil Pur. Co.'s No. 1 Tippett, 150 ft. S of S line, Sec. 539, and 382 ft. from E of their 75-ac. lease, Sec. 61, Blk. 194 ..... Encountered pay 331-450 ft.; 250 ft. oil in hole.

Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E of SE, Sec. 199, Blk. 3, I.&G.N. Sur. ..... Location.

Shell Pet. Corp.'s No. 1-D University, 1,650 ft. from E and 990 ft. from W of Sec. 32, Blk. 16 ..... Drlg. 210 ft.

Shell Pet. Corp.'s No. 5 Smith-D, 990 ft. N and W of SE cor. of Sec. 24, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Drlg. 425 ft.

Simms Pet. Co.'s No. 1 University, 1,650 ft. N and 330 ft. W of SE cor. Sec. 21, Blk. 19, University Land ... Underreaming; total depth 415 ft.

Skelly Oil Co.'s No. 1 Bowers, SW cor. N half SE, Sec. 31, Blk. 16 ..... Initial production 58 bbls. 1,649-50 ft.; swabbed 45 bbls. day; total depth 1,676 ft.; plugged back to 1,670 ft.; to clean out and pump.

Southern Crude Oil Pur. Co.'s No. 1 McKenzie, 150 ft. from N and 635 ft. from E of Sec. 2, Blk. 10, G.C. &S.F.R.R. Sur. ..... Drlg. 675 ft.

Southern Crude Oil Pur. Co.'s No. 1 Tippett, 371 ft. W of C line and 150 ft. S of S line of Sec. 539, Arnold & Bennett Sur., but in Sec. 61, Blk. 194, G.C.&S.F. Sur. ..... Location.

Transcontinental Oil Co.'s No. 1 University ..... Drlg. 4,867 ft.

Transcontinental and Arkansas' No. 2 Matthews, 1,060 ft. from E and 330 ft. from N line of SE Sec. 10, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Transcontinental and Arkansas Fuel Oil Co.'s No. 1-A Smith, 2,310 ft. from N and 1,290 ft. from E of Sec. 11, Blk. 194, G.C.&S.F. Sur. ..... Location.

Transcontinental Oil Co. et al's No. 2 Sellman, 990 ft. from N and 2,310 ft. from E of Sec. 8, Blk. Z, T.C. Sur. ..... Location.

Transcontinental Oil Co.'s No. 1 Smith, 2,310 ft. from N and 1,060 ft. from E of Sec. 10, Blk. 194, G.C.&S.F. R.R. Sur. ..... Location.

Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. 8, H.&G.N. Sur. ..... Drlg. 1,330 ft.

World Oil Co.'s No. 2 University, Sec. 31, Blk. 16, 330 ft. from N, 2,310 ft. E ..... Total depth 1,659 ft.; show oil 1,642-45 ft.; water 1,654 ft.; to plug back to 1,620 ft. and test.

World Oil Co.'s No. 1-C University, 1,650 ft. from N, 990 ft. W. Sec. 7, Blk. 20, University Land ..... Hole full water 1,547-49 ft.; total depth 1,560 ft.

**PRESIDIO COUNTY**

Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.?. R.R. Sur. ..... Spudded; shut down.

**REAGAN COUNTY**

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; 1,000 ft. fluid in hole; top pay 6,807 ft.; drlg. 8,377 ft.

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Showing oil and gas at 8,220 ft.; total depth 8,220 ft.; flowed an average 175 bbls.; 4,489,000 ft. gas.

Texon Oil & Land Co.'s No. 2-B University, 4,655 ft. from S, 250 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 4,805 ft.

Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 ..... To drill by pipe; total depth 2,990 ft.

**REEVES COUNTY**

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,990 ft.

H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Shut down 858 ft.

Southern Crude Oil Pur. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 ..... Show oil 3,410-20 ft.; shut down 3,575 ft.

David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Fishing 5,658 ft.

**RUNNELS COUNTY**

Gibson & Johnson's No. 1 Johnson, 2,310 ft. N and 1,650 ft. W of SE cor., Sec. 150, E.T.R.R. Sur. ..... Spudding.

Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. ..... Derrick.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Drlg. 1,600 ft.

McLean's No. 1 Clayton, 150 ft. from N line, 270 ft. from W line of Sec. 133 ..... Shut down 1,185 ft.

**SCHLEICHER COUNTY**

Delmar Oil Co.'s No. 1 O'Harrow, C of NW, Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ..... Drlg. 2,020 ft. in gray lime.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Total depth 5,870 ft.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Running 8¼-in. casing 2,041 ft.

**SCURRY COUNTY**

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Shut down 1,732 ft.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E. Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Fishing 3,805 ft.; est. 200,000 ft. gas at 3,775 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down 300 ft.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 4,325 ft.

E. L. Smith Oil Co.'s No. 1 Moore, 1,320 ft. from S and W, Sec. 379, Blk. 97 ..... Top salt 750 ft.; encountered 500,-000 ft. gas 1,510 ft.; oil show 2,215 ft.; drlg. 3,320 ft.

Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Spudding.

**SUTTON COUNTY**

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

**TAYLOR COUNTY**

Condor Pet. Co.'s No. 1 Allen, C of NW, Sec. 220, Blk. 64, H.T.C.R.R. Sur. ..... Spudding.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; drlg. 5,320 ft.

**TERRELL COUNTY**

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Shut down 1,285 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Drlg. 3,110 ft.

Mrs. J. B. McPhee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Drlg. 1,610 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

**TERRY COUNTY**

Kingsland Oil Prod. Co.'s No. 1 Brownfield, C NW SW SW, Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing bailer 5,080 ft.

**TOM GREEN COUNTY**

Cannon et al's No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Location.

Ellis et al's No. 1 Lewis, 450 ft. S and 150 ft. E of SE cor. of J.W. Sur. in Albert Black Sur., Sec. 75 ..... Show oil 342 ft.; cleaning out 443 ft.; shot 20 qts.; no results.

Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Ringer ..... Total depth 2,447 ft.; plugged back to 2,405 ft. to straighten hole.

E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land ..... Shut down 250 ft.

**UPTON COUNTY**

Gulf Prod. Co.'s No. 3-B Hughes, 160 ft. N and 161 ft. W of most southerly SE cor. of their 200-ac. lease "B" out of Wm. Teer Sur. ..... Rig.

Pure Oil Co.'s No. 3 Hughes, 150 ft. S and 767 ft. E of NW of their 300 ac., Sec. 4, Wm. Teer Sur. ..... Shut down 610 ft.

Snowden & McSweeney's No. 3 Hughes, 330 ft. from S and W of 80-ac. lease, Sec. 4, Wm. Teer Sur. ..... Top salt 690 ft.; shut down 2,220 ft.

T. P. Coal & Oil Co.'s No. 1 Belcher, 1,320 ft. from N and 2,310 ft. from W line, Sec. 10, Blk. 4½, G.C.& S.F.R.R. Sur. ..... Drlg. 350 ft.

T. P. Coal & Oil Co.'s No. 1 Reese, 330 ft. from N and E line, Sec. 2, Blk. 3 ..... Top salt 910 ft.; drlg. 995 ft.

**VAL VERDE COUNTY**

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.

O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; shut down 5,550 ft.

Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 44, Blk. D-8, E.L.&R.R. Sur... Show oil 1,535 ft.; hole full water 2,520 ft.; drlg. 2,545 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y.. Shut down 4,009 ft.

**WARD COUNTY**

Alpine Oil & Gas Co.'s No. 1 Dakan, 228 ft. from NE and 150 ft. from SE line, Tract 8, Sec. 11, Blk. 5, H.&T.C. Sur. ..... 1,000 ft. oil in hole; top pay 2,148 ft.; total depth 2,210 ft.; swabbing 30 bbls. per day.

E. J. Anderson's No. 1 Johnson, 150 ft. N, 346 ft. E. Sec. 7, Blk. 32, H.&T.C.R.R. Sur. ..... Top salt 815 ft.; total depth 2,183 ft.; top pay 2,155 ft.; swabbing 20 bbls. per day.

Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W. Sec. 2, J. Howe Sur. ..... Underreaming 8-in. casing 1,250 ft.; total depth 1,710 ft.

Atlantic and Delmar's No. 7 Hayzlett, 1,650 ft. from NE and NW of Sec. 17, Blk. 5 ..... Location.

Grand Falls Oil Co.'s No. 1 Boogher-Holden, 2,598 ft. S, 4,026 ft. E, Sec. 11, Blk. 5, H.&T.C.R.R. Sur. ..... Flowing 40 bbls.; estimated 2,-000,000 ft. gas; total depth 2,186 ft.

Gulf Prod. Co.'s No. 3 Hutchins, 2,310 ft. from N and 330 ft. from W. Sec. 1, Blk. F, G.M.M.B.&A. Sur. .... Top salt 1,035 ft.; top brown lime 2,310 ft.; increase in gas 2,608-10 ft.; show oil 2,685 ft.

Gulf Prod. Co.'s No. 7 O'Brien, 320 ft. S and W, Sec. 22, Blk. F, G.M.M.B.&A. Sur. ..... Hole full sulphur water 3,408 ft.; slopped over casing; drlg. 3,510 ft.; flowing sulphur water.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur. .. Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; salt water at 2,545 ft.; shut down.

F. H. E. et al's No. 1 Wristen, 990 ft. from S and W lines of Sec. 26, Blk. B-28 ..... Top salt 700 ft.; drlg. 3,045 ft.

Tex-Oil Production Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. ..... Show gas 2,806-09 ft.; shot 30 qts. 3,245-75 ft.; drlg. 3,660 ft.; shot 120 qts. from 3,240-75 ft.

Mid-Continental's No. 1 Conway, 2,316 ft. E, 922 ft. S. Sec. 23, Blk. 29, Public School Land ..... Top salt 880 ft.; drlg. 3,370 ft.

Penn and Atlantic's No. 2 Bennett, 2,310 ft. S line, 1,650 ft. W line, Sec. 16, Blk. 34, H.&T.C.R.R. Sur. ..... Shut down 2,305 ft.; to recement 6-in. casing at 2,262 ft.

Penn and Atlantic's No. 1 Cooper, 330 ft. from NE and 990 ft. from NW of Sec. 43, Blk. 34, H.&T.C. Sur. .... Bailing 6 bailers water, 5 bailers oil; show oil 2,657 ft.; total depth 2,782 ft; underreaming 6-in. casing 2,375 ft.

Shell Pet. Corp.'s No. 1 Owens, located NE cor. of Sec. 16, Blk. 15, H.&T.C.R.R. Sur. ..... Top pay 2,886-93 ft.; increase at 2,909 ft. and 3,023-32 ft.; shot 90 quarts from 2,473-93 ft.; increase in oil 3,022-32 ft.; drlg. 3,639 ft. in gray lime.

Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. ..... Top salt 720 ft.; shut down 2,546 ft.; plugged back 2,538 ft.; shot 90 qts. from 2,473-93 ft.; mudded and shut down.

Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Rig.

Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Shut down 385 ft.

Southern Crude Oil Prod. Co.'s No. 1 Harris, 1,458 ft. from N and 1,406 ft. from E of Sec. 30, Blk. B-19 ... Rigging up rotary.

Sturm & Paine's No. 1 Cummins, 748 ft. from NE and 155 ft. from NW of Sec. 7, Blk. 32, H.&T.C.R.R. Sur. Drlg. 1,025 ft.

Sun Oil Co.'s No. 2 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 1,905 ft. in red beds.

**WINKLER COUNTY**

A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.; show oil 2,775-85 ft.

Bashara et al's No. 2 Bashara, 990 ft. from S, 2,310 ft. from E, Sec. 17, Blk. B-3, Public School Land ..... Top brown lime 2,306 ft.; top white lime 3,008 ft.; 40,000,000 ft. gas at 3,030 ft.; flowed 37 bbls. daily through 2½-in. tubing.

Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W, Sec. 42, Blk. 26, Public School Land ..... Total depth 150 ft.; rig.

Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Top brown lime 2,510 ft.; shut down 3,685 ft.

Shell and The Texas Company's No. 1-B Cowden, 660 ft. from S and W of Sec. 39, Blk. B-5, Public School Land ..... Rotary.

Sun Oil Co.'s No. 1 Sealy, 2,310 ft. N line, 330 ft. from W line, Sec. 52, Blk. F, C.M.M.B.&A. Sur. ..... Run 8¼-in. casing 1,530 ft.; total depth 1,540 ft.

Steel has been put to another new and admirable use, for drilling operations, in the KM CO Steel Jack Posts and Sampson Posts. All A. P. I. specifications have been incorporated in their design.

KM CO Steel Machinery Supports are constructed from standard structural steel shapes and are rugged enough for the most severe work. Jack Posts are of the same size for front or back location. Sampson Posts are made in two sections for convenience in transportation and erection. Heavy girt brace in Sampson Posts prevents any distortion in leg sections. All KM CO Steel Machinery Supports are protected by aluminum paint. Low installation costs and high salvage recovery, as well as elimination of fire hazards are salient features to consider in the use of KM CO Steel Machinery Supports.

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Sales Offices: Hunt Bldg., Tulsa, Okla.; Magnolia Bldg., Dallas, Texas; Central Bldg., Wichita, Kans.

## WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 56)

Keen & Malcolm's No. 1 Mollie McNeal, George C. Kimball Sur., 2,500 ft. to W line, 860 ft. to N line, 1 mile S from old Luling Field ..... T. D. 890 ft.; shut down.
San Antonio Petroleum Corp.'s No. 1 Gustave Walkerhagen, Thomas Maxwell Sur., 150 ft. to NW and SW lines, 11 miles W from Lockhart ..... T. D. 1,400 ft.; drlg. in Edwards.
G. R. McIntire's No. 1 J. G. Towns in the I. Weldon Sur., 4,900 ft. to NE line, 1,350 ft. to SE line of Sur. ..... T. D. 2,630 ft. in chalk; shut down.
W. H. Harper's No. 3 Thomas, J. Roberts Sur. ..... Fishing for pipe.

**DEWITT COUNTY**

Gibson & McIntyre's No. 1 William Van Roeder ..... T. D. 1,480 ft.; shut down.
F. P. Zoch's No. 1 Steinman, John Garelli Sur., 976 ft. from SW line, 1,797 ft. from NW line ..... T. D. 3,850 ft.; shut down; waiting on fuel oil.
H. T. Roe's No. 1 Leinhardt ..... T. D. 1,750 ft.; shut down.

**DIMMITT COUNTY**

Texas Fuel Gas Co.'s No. 1 City Nat'l Bank (Laxon) .... T. D. 680 ft.; depth corrected.

**DUVAL COUNTY**

National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3.. T. D. 2,275 ft.; standing (corrected depth).
F. P. Zoch's No. 1 King, Blk. 25, Hoffer and Smith Subd., W. R. King ranch, Diego Hinijosa grant, 660 ft. N line, 660 ft. E line ..... T. D. 1,200 ft.; drlg.
Southern Oil Co.'s No. 1 Welder Wood, Sur. 215 ..... T. D. 750 ft.; standing waiting on water.

**EDWARDS COUNTY**

A. M. Griffith's No. 1 Wardlaw ..... Shut down 3,000 ft. awaiting orders; expect to drill deeper.

**FRIO COUNTY**

Frank B. LeFeure's No. 1 H. W. and R. L. Eschenburg, Edward Gallagher Sur. No. 789, 3,980 ft. W of SE cor. of Edward Gallagher Sur. No. 788 and 1,320 ft. S of N line of Edward Gallagher Sur. No. 789 .... Location.

**GOLIAD COUNTY**

Compton Oil Co.'s No. 1 Fromme, Dexter Sur. ..... Standing.
Wm. F. Morgan's No. 1 George Ray in Pedro Trevano Sur., 150 ft. from SE and NW line of George Ray 627-a. tract ..... Rigging up.

**GONZALES COUNTY**

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Sur. ..... T. D. 1,810 ft.; drlg. in sandy shale.
Fitzsimmons & Perrinot's No. 1 Z. Huber, 2,100 varas from NW line, 1,450 varas from NE line (river) of survey, 2¾ miles SE of Darst Creek in Stephen Smith Sur. ..... T. D. 1,200 ft.; drlg. in shale.
Alice R. Garrett's No. 1 W. H. Cardwell, 150 ft. from SW line, 1,650 ft. from SE line of Sur., 12 miles S from Gonzales in the Byrd Lockhart Sur. ..... Spudded and shut down.
Joe Bruner's No. 1 R. D. and J. C. Miller in David J. Kent Sur., 3,040 ft. N line, 200 ft. E line ..... T. D. 3,485 ft.; abandoned dry.
Adams & Lyles' No. 1 Jackson Sur. ..... T. D. 1,350 ft.; drlg. in shale (corrected depth).
Linderman Brothers' No. 2 F. H. Frampton, in Richard Heath Sur. ..... Derrick.
Finnell & Elam's No. 1 Robinson, Liverpool Sur. ..... T. D. 1,720 ft.; shut down.
United North & South's No. 1 J. A. Kerr, in James Bowman Sur., 150 ft. S of CNL of tract, 11 miles W from Waelder ..... Drlg. in Edwards at 5,550 ft.
A. G. Keiffer's No. 1 B. B. Dix ..... Drlg. in Taylor marl 2,800 ft.; drill stem stuck; shut down.

**GUADALUPE COUNTY**

Pagenkopf & Kennon's No. 1 Haim, Joseph Kent Sur., 5 miles E of Seguin ..... T. D. 2,030 ft.; preparing to shoot at 1,622-45 ft. in chalk.
Turman et al's No. 1 J. C. Talley, 150 feet N line, 300 ft. from W line of Sur., 5 miles SW of Grayburg's No. 1 Wells, SE cor. of county in the J. A. Miller Sur. ..... Rigging up.

**HAYS COUNTY**

E. A. Bucklin's No. 1 A. Elsner ..... T. D. 1,800 ft.; drlg. in lime.
John H. Foster, trustee's No. 2 W. G. Barber, 7 miles SE of Buda ..... T. D. 671 ft.; shut down.

**JACKSON COUNTY**

Wright Brothers' No. 7 Drushell ..... Standing 3,875 ft.

**JIM HOGG COUNTY**

Deep Rock Oil Co.'s No. 1 Kelsey ..... Standing 2,582 ft.
L. M. Holden's No. 4 Jones, 1,820 ft. to N line, 1,320 ft. to E line of 160 acres out of Share 5 "A," Dego Hinojosa grant ..... Standing 42 ft.

**JIM WELLS COUNTY**

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ..... T. D. 2,615 ft.; standing.

**KARNES COUNTY**

Ruby & Claypool's No. 1 Tom V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line ..... Shut down in shale at 1,238 ft.
Benedum-Trees' No. 1 S. E. Crews, Britton Odem Sur. .. T. D. 4,550 ft.; abandoned dry.
Hurador Oil Co.'s No. 1 W. E. Porter ..... T. D. 3,400 ft.; installing new rotary.

**KENDALL COUNTY**

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 700 ft.; drlg.
Dixon Oil Co.'s No. 1 Ottmar Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... Location.
Sterling's No. 1 Willie Werner, 2 miles NW from Borgett No. 1 Haag ..... T. D. 924 ft.; black sulphur water, (corrected depth).

**KLEBERG COUNTY**

Bowen-Sarles' No. 1 Robert H. Simmons, Sec. 7, King Subd., 3 miles W from Ricardo ..... T. D. 415 ft.; standing.

**KINNEY COUNTY**

Lloyd Oil Co.'s No. 1 G. B. Moore, Sur. 117 ..... T. D. 3,000 ft.; producing sulphur water.
A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur. in the Poindexter-Burns Sur. ..... Rigging up cable tools.
Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winters Sur. No. 346, near No. 1 ..... Moving in cable tools.

**LEE COUNTY**

Byrd et al's No. 1 H. L. Bastie, 1,200 ft. N and 1,000 ft. E of 80-ac. tract of Wm. Johnson ..... Drlg. 3,000 ft.
Texas-Louisiana Carbon Corp.'s No. 1 Bryan, in the S. F. Austin Sur., 1,200 ft. N and W of 1,200-ac. farm ..... Shut down 3,120 f
Todor Oil Corp.'s No. 1 H. Zoesch, in the J. Meeks Sur., 150 ft. N and 900 ft. W of S. Meeks Sur. ..... Shut down 2,050 ft.

**LIVE OAK COUNTY**

O'Neil & Catlett's No. 1 Smith, 900 ft. SW line, 150 ft. NW line ..... T. D. 3,570 ft.; drlg. in Jackson shale.
Dr. J. K. Rowan Co.'s No. 1 Lynne Ranch, 171 ft. W of George West ..... Location.
Simmons Oil Co.'s No. 1 Richard Coquat, in James C. Hill Sur., 2,250 ft. to S line, 1,750 ft. to E line, 7 miles NE of Oakville ..... T. D. 2,868 ft.; drlg. in shale.

**MAVERICK COUNTY**

Rycade Oil Corp.'s No. 4 J. M. Chittim ..... T. D. 6,130 ft.; pulling csg. to abandon.
Rycade Oil Corp.'s No. 6 Chittim, 1,455 ft. from S. 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... Rigging up.
Rycade Oil Corp.'s No. 5 Chittim ..... T. D. 3,442 ft.; standing; hole full of sulphur water.
Rycade Oil Corp.'s No. 4 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... Location.
Rycade Oil Corp.'s No. 3 Chittim, Blk. 7, Sur. 116, H.& G.N., 175 ft. N of No. 1, 10 ft. W, 225 ft. S line .... T. D. 6,585 ft.; drlg.

**MEDINA COUNTY**

Pat Armstrong's No. 1 C. W. Butts in George C. Hanson Sur. ..... T. D. 1,102 ft.; shut down.
Pan American Pet. Co.'s No. 1 Harrison, Sur. 799, 15 miles S from Hondo ..... Spudded in.
Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillemmeyer No. 25 Sur., 500 ft. to E line of Sur., 150 ft. to S line of N half of Sur. ..... Derrick.
Pearson Oil Co.'s No. 4 Mangold, 1,600 ft. W of E line, 1,800 ft. N of S line of Sur. in the I. S. Palmer Sur. No. 20, south from Noonan ..... Spudded in.
Pure Oil Co.'s No. 1 Nick F. Fahn in Amos Hudson Sur. No. 587, near NW line of Sur. ..... Core drilling.
Cecil Switzer's No. 1 Zerr, 6 miles west of Hondo ..... T. D. 3,710 ft.; fishing for tools.
R. C. Hill's No. 1 A. Wurzbach, G. Areola Sur., 500 ft. E line, 600 ft. S line ..... Location.

**MILAM COUNTY**

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ..... Location.
Hill & Bonwell's No. 1 B. Booker, James Welch Sur. .. Fishing 2,020 ft.
Lloyd Oil Corp.'s No 1 San Clement, Fokes Sur. ..... Spudded in.
A. H. Wray's No. 1 D. D. Fowler ..... T. D. 1,688 ft.; sidetracked 360 ft. of drill pipe lost in hole; now drlg.

**McMULLEN COUNTY**

Cowboys Oil Co.'s No. 1 Shiner, H. M. Brewer Sur. .... T. D. 2,280 ft.; overhauling rig preparing to deepen.
Southern Crude Oil Purch. Co.'s No. 1 J. B. Baker, 2,310 ft. from S and E lines of Sec. 7 in the F. M. Lowe Sur. ..... No announcement has been made as to when actual work will begin.

**NUECES COUNTY**

H. Grimm et al's No. 1 A. R. Roberts, Blk. 79,, Winter Vegt. Garden Subd., 6 miles NW of Robstown, 12 miles NE Agua Dulce Field ..... T. D. 2,426 ft.; standing.

**SAN PATRICIO COUNTY**

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 2,252 ft.; set 6⅝-in. csg. 2,246 ft.; waiting on cement.

**STARR COUNTY**

Adams, Scanlon, Scanlon & Wright's No. 1 Margo, Por. 71, Jurisdiction of Mier, 1,921 ft. W line, 430 ft. N line ..... Standing at 30 ft.
Smith & Adams' No. 1 Welch, Pedernal Sur. ..... Standing at 631 ft.

**UVALDE COUNTY**

Waldrop & Welch's No. 1 H. S. Benson, 2 miles NW of Uvalde ..... T. D. 770 ft.; setting 8¼-in. csg. in Edwards; report oil showing.
Phantom Oil Co.'s No. 1 Claudt, Sur. 661 ..... Building derrick.

**WILLACY COUNTY**

Weimer-Richardson's No. 1 Elmore ..... T. D. 1,860 ft.; shut down in gumbo.

**WILLIAMSON COUNTY**

Harlem et al's No. 1 H. H. Stiles, in the J. Bevil Sur., 220 ft. N and 330 ft. E of Sur. ..... Rigging up.
Powell & Kydendall's No. 1 Christian Mager in the W. Byerly Sur., 150 ft. N and 450 ft. E of farms of 150 acres ..... Shut down 1,501 ft.

**WILSON COUNTY**

Rycade Oil Corp. et al's No. 1 George Hice, Juan Delgado Sur., 650 ft. W of Cibolo River, 150 ft. SE line of tract ..... T. D. 3,201 ft.; drlg. in broken lime.

**ZAPATA COUNTY**

R. F. Blankenship's No. 1 G. T. Montemeyer, Sur. 45, Blk. 7, 150 ft. N and E lines ..... T. D. 1,321 ft.; csg. shot at 950 ft.; well blew in as gasser est. 3,000,000 ft.
John Pappas' No. 2 Cuellar, Por. 33 and 34 ..... T. D. 1,856 ft.; sand 1,850-56 ft.
National Oil Co.'s No. 1 D. B. Adams ..... T. D. 690 ft.; shut down; lack of water; making considerable gas.

**ZAVALA COUNTY**

Tritex Oil Co.'s No. 1 Clay Burns ..... T. D. 780 ft.; standing.
Tritex Oil Co.'s No. 2 Childress, one-fourth mile NW of old Dominion Co.'s No. 1 Pryor ..... Drlg. 650 ft.
Weigand Brothers' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,220 ft. W of NE cor. Sur., about 16 miles S of Batesville ..... T. D. 900 ft.; drlg.
Jack Baldwin's No. 1 J. R. Price, in the W. E. Erskin Sur. No. 34 ..... Spudded in and shut down.
Southern Crude Oil Purch. Co.'s No. 1 Nat M. Washer in the T. Pinckhardt Sur. No. 180, 1 deg. E, 6,795 ft. from SE cor. ..... T. D. 937 ft.; drlg. in hard shale and lime.
Texas Gas & Fuel Co.'s No. 2 West in the W. Zuniga Sur. ..... T. D. 1,818 ft.; shut down; estimated 4,000,000 ft. gas; hole full salt water.
Texas Fuel & Gas Co.'s No. 4 West Sur. 44 ..... T. D. 1,025 ft.; drlg. in blue shale; to be drilled to 2,500 ft.
Texas Fuel & Gas Co.'s No. 1 Matthews in upper Byrd Ranch ..... T. D. 905 ft.; drlg. in shale.

## GULF COAST FIELDS AND WILDCATS

(Continued from Page 60)

Humble & Valley's No. 4 Sherrill ..... Derrick.
Humble & Valley's No. 6 Thompson ..... Derrick.
Humble & Valley's No. 7 Thompson ..... Location.
Humble & Valley's No. 7 Urban ..... standing 1,165 ft.
Humble & Valley's No. 8 Urban ..... Rigging up to pump 3,160 ft.
Humble & Valley's No. 7-A Walton ..... Shut down 1,190 ft.
Humble & Valley's No. 8-A Walton ..... Derrick.
Humble & Valley's No. 3-A Washington ..... Drlg. sandy shale 2,511 ft.
Humble & Valley's No. 4 Woodley ..... Standing 1,212 ft.
Humble & Valley's No. 5 Woodley ..... Drlg. sandy shale 3,323 ft.
Humble & Valley's No. 6 Woodley ..... Derrick

**DE WALT—FORT BEND COUNTY**

Humble Oil & Refining Co.'s No. 2-B Bankers Mortgage.. Drilled plug 3,526 ft.; to test.
Humble Oil & Refining Co.'s No. 11 Brazos ..... Drlg. sandy shale 3,684 ft.
Humble Oil & Refg. Co.'s No. 9 Hamner fee ..... Location.
Humble Oil & Refg. Co.'s No. 13 Sugarland ..... Rig.
Humble Oil & Refg. Co.'s No. 3 Sugarland ..... Drlg. sand and lime 2,518 ft.
Humble Oil & Refg. Co.'s No. 9 Nelson ..... Derrick.

**HUMBLE—HARRIS COUNTY**

John Deering's No. 5 Bissonet ..... Drlg. oil sand 4,040 ft.
Humble Oil & Refg. Co.'s No. 8 Williams (south) ..... Drlg. sticky shale 4,755 ft.
Humble Oil & Refining Co.'s No. 2 Trahon (south) .. Drlg. sticky shale 4,981 ft.
Rio Bravo Oil Co.'s No. 1 fee, west ..... Rigging up.
South Texas Petroleum Co.'s No. 14 Morris, south ..... Drlg. gumbo 3,169 ft.
South Texas Petroleum Co.'s No. 3 Lee ..... Drlg. hard lime 4,311 ft.
Harvey Smith's No. 1 O'Boyle (west) ..... Location.
South Texas Petroleum Co.'s No. 4 Lee (south) ..... Location.
South Texas Petroleum Co.'s No. 2 Burt (east) ..... Location.
Sun Oil Co.'s No. 4 Bender (west) ..... Derrick.
The Texas Company's No. 1 Atlantic & Gulf, southeast .. Derrick.
The Texas Company's No. 30 Carroll, northeast ..... Sand and shale showing oil 2,891 ft.; set 6⅝-in. casing 2,817 ft.
The Texas Company's No. 36 Kohler, northeast ..... Drlg. shale 4,332 ft.
The Texas Company's No. 2 Dunman, south side ..... Comp. flowing 500 bbls. oil 5,360 ft.

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West Production Co.'s No. 2 Foster ..... Drlg. sandy shale showing oil 4,545 ft.

**BLUE RIDGE—FORT BEND COUNTY**

Humphreys Corp.'s No. 1 West-Schenck (workover) ..... Drlg. 2,487 ft.
Sinclair Oil & Gas Co.'s No. 1 Blakely ..... Derrick.
Sinclair Oil & Gas Co.'s No. 4 Blakely (workover) ..... Rigging up to deepen.

**PIERCE JUNCTION—HARRIS COUNTY**

Anderson & Plummer's No. 6 Whitehead (workover) .... Sidetracked stuck drill stem; drlg. 5,932 ft.
Marland Oil Co.'s No. 2 Prudential (workover) ..... Drlg. 4,100 ft.
Navarro Oil Co. and Texas Exploration Co.'s No. 18 Dooley ..... Drlg. gumbo 990 ft.
Pure Oil Co.'s No. 1 Herman (workover) ..... Total depth 5,019 ft.; plugged to 4,981 ft.
Pure Oil Co.'s No. 2 Herman, southwest ..... Rig.
Rio Bravo Oil Co.'s No. 11-B Settegast ..... Drlg. sand and lime 3,429 ft.
Rio Bravo Oil Co.'s No. 12-A Settegast (workover) ..... Pumped salt water 5,015 ft.; to deepen.
Rio Bravo Oil Co.'s No. 17-A Settegast, west ..... Sand and shale showing oil 3,575 ft.; set 6⅝ in. casing 3,554 ft.
Rio Bravo Oil Co.'s No. 18-A Settegast, west ..... Derrick.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Set screen 4,161 ft.; failed to flow; to deepen.
Saxet Gas Co.'s No. 6 Herman, southwest ..... Drlg. 4,535 ft.
Saxet Gas Co.'s No. 7 Herman, southwest ..... Derrick.
Superior Oil Co.'s No. 3-A Whitehead ..... Shale showing oil 4,258 ft.; cem. casing.

**LIBERTY—LIBERTY COUNTY**

Empire Gas & Fuel Co.'s No. 11 Groggan ..... Started drilling.
Sun Oil Co.'s No. 54 Mitchell ..... Drilled plug 3,510 ft.; to test sandy shale.
The Texas Company's No. 5 Green (workover) ..... Coring 3,400 ft.
Vacuum Oil Co.'s No. 1 Clarion, shallow pool ..... Drlg. sand 1,100 ft.

**HULL—LIBERTY COUNTY**

W. B. Flynn's No. 8 Harrison (workover) ..... Drlg. 3,167 ft.
Empire Gas & Fuel Co.'s No. 11 Barngrover (workover) .. To deepen.
Empire Gas & Fuel Co.'s No. 31 Barngrover ..... Rig.
Humble Oil & Refg. Co.'s No. 25 Guedry ..... Comp. flowing 253 bbls. oil 3,754 ft.
Ocean Springs Oil Co.'s No. 1-H Palmer ..... Drlg. 2,021 ft.
Republic Production Co.'s No. 57 Dolbear (workover) .... Drlg. 2,889 ft.
Republic Production Co.'s No. 122 Dolbear ..... Drlg. 1,791 ft.
The Texas Company's No. 1 Barrow fee ..... Location.
The Texas Company's No. 8 Hannah-Vacuum ..... Waiting cement to set.

**BIG CREEK—FORT BEND COUNTY**

Benedum & Trees' No. 1 J. F. Ahlers ..... Derrick.
Benedum & Trees' No. 1 Moore ..... Heaving shale 4,179 ft.; washing 3,950 ft.
Navarro Oil Co.'s No. 4 Hausler ..... Rig.
The Texas Company's No. 4 fee (workover) ..... Drlg. 2,600 ft.

**LOST LAKE—CHAMBERS COUNTY**

Pure Oil Co.'s No. 4 Mayes ..... Abandoned 2,865 ft.
Pure Oil Co.'s No. 9 Mayes ..... Drlg. gummy shale 2,663 ft.
Pure Oil Co.'s No. 10 Mayes ..... Location.
Pure Oil Co.'s No. 4 Lost Lake ..... Spudded.

**NASH—BRAZORIA COUNTY**

Rycade Oil Corp.'s No. 26 Wisdom ..... Bailed dry 5,826 ft.; to deepen.

**BATSON—HARDIN COUNTY**

Ada Belle Oil Co.'s No. 133 Sun ..... Drlg. 481 ft.
East Batson Oil Co.'s No. 9 Bates ..... Drlg 439 ft.
D. L. Williams' No. 1 Fee ..... Drlg. 222 ft.

**SOUR LAKE—HARDIN COUNTY**

Lake View Oil Co.'s No. 8 Minor ..... Drlg. 2,300 ft.
Gilbert Oil Co.'s No. 107 Gilbert ..... Derrick.
M. E. Peveto's No. 1 Merchant ..... Drlg. 1,096 ft.
The Texas Company's No. 305 fee ..... Derrick.

**SARATOGA—HARDIN COUNTY**

Rio Bravo Oil Co.'s No. 89 Cotton ..... Sidetracking 478 ft.
Rio Bravo Oil Co.'s No. 89-A Cotton ..... Rig.

**ORANGE—ORANGE COUNTY**

Sinclair Oil & Gas Co.'s No. 2 Leon (workover) ..... Drlg. 1,996 ft.
Tilley Oil Co.'s No. 5-C State (workover) ..... Set liner to test 3,949 ft.

**GOOSE CREEK—HARRIS COUNTY**

Humble Oil & Refg. Co.'s No. 77 Simms-Smith ..... Drlg. shale 3,900 ft.
Jim McMurry's No. 4 Grace Addey ..... Rig.

**SPINDLETOP—JEFFERSON COUNTY**

Yount Lee Oil Co.'s No. 75 McFaddin (workover) ..... Drlg. sand 5,014 ft.
Yount Lee Oil Co.'s No. 120 McFaddin ..... Abandoned 4,578 ft.
Yount Lee Oil Co.'s No. 123 McFaddin ..... Drlg. sand and lime 4,148 ft.
Yount Lee Oil Co.'s No. 124 McFaddin ..... Drlg. gumbo 1,643 ft.
Yount Lee Oil Co.'s No. 125 McFaddin ..... Rig.
Yount Lee Oil Co.'s No. 99 Gladys City ..... Drlg. sand rock 2,816 ft.
Yount Lee Oil Co.'s No. 13 Gladys City (workover) ..... Sidetracking 2,669 ft.
Yount Lee Oil Co.'s No. 100 Gladys City ..... Derrick.

**WEST COLUMBIA—BRAZORIA COUNTY**

Saxet Oil Co.'s No. 3 Hogg ..... Location.
The Texas Company's No. 26 Arnold ..... Rig.

**NORTH DAYTON—LIBERTY COUNTY**

John A. Deering's No. 6 fee ..... No report.
Humble Oil & Refining Co.'s No. 1 Jamison, south ..... Drlg. hard sand rock 3,961 ft.
Harrison Oil Co.'s No. 1 Jamison ..... Drlg. rock 3,945 ft.
Harvey Smith's No. 1 Simmons & Brown ..... Rig.
The Texas Company's No. 1 Paraffine fee ..... Rig.

**HIGH ISLAND—GALVESTON COUNTY**

Gulf Production Co.'s No. 5-A Smith ..... Fishing drill stem 4,535 ft.
Marrs McLean's No. 12 Cade (workover) ..... Testing oil sand 4,312 ft.
Marrs McLean's No. 17 Cade ..... Drlg. rock 3,249 ft.
Tom C. Patten's No. 1 Jackson ..... Derrick.

**ORCHARD—FORT BEND COUNTY**

Gulf Production Co.'s No. 20 Moore ..... Drlg. 2,649 ft.

**DAMON MOUND—BRAZORIA COUNTY**

L. & M. Oil Co.'s No. 5 Wisdom ..... Cem. 6⅝-in. casing 2,305 ft.

**REFUGIO—REFUGIO COUNTY**

Hamil Drilling Co.'s No. 1 Cable ..... Location.
Herman F. Heep's No. 1 Rutherford ..... Comp. flowing 1,900 bbls. oil; total depth 3,711 ft.
Herman F. Heep's No. 1 Vance ..... Rig.
Houston Gulf Gas Co.'s No. 1 Lambert ..... Drlg. sticky shale and hard lime 5,825 ft.
Houston Gulf Gas Co.'s No. 2 Lambert ..... Rig.
Houston Gulf Gas Co.'s No. 2 Morgan-Vance ..... Comp. dry gas well 3,692 ft.
Houston Gulf Gas Co.'s No. 3 Cummings ..... Core sand showing oil 3,647 ft.
Houston Gulf Gas Co.'s No. 3 Morgan Shelley ..... Shut down 22 ft.
Houston Gulf Gas Co.'s No. 6 O'Brien ..... Drlg. sticky shale 3,660 ft.
Houston Gulf Gas Co.'s No. 9 T. P. Shelly ..... Drlg. gumbo and lime 3,545 ft.
Houston Oil Co.'s No. 1 Rooke Hotel ..... Drlg. sandy shale 1,620 ft.
Houston Oil Co.'s No. 1 Tom Heard ..... Drlg. 546 ft.
Houston Oil Co.'s No. 1 Carlysle ..... Drlg. rock 909 ft.
Houston Oil Co.'s No. 1 Shelton ..... Rig.
Houston Oil Co.'s No. 1 Dorsey ..... Derrick.
Houston Oil Co.'s No. 2 Rea ..... Comp. flowing 500 bbls. fluid; 70 per cent oil 3,683 ft.
Independent Oil & Gas Co.'s No. 2 Claude Heard ..... Testing oil sand 3,686-94 ft.
Independent Oil & Gas Co.'s No. 1-B J. F. B. Heard .... Testing oil sand 3,666 ft.
Independent Oil & Gas Co.'s No. 2-B J. F. B. Heard ..... Pulling tubing 3,666 ft.
Independent Oil & Gas Co.'s No. 1-C Heard ..... Location.
Independent Oil & Gas Co.'s No. 3 Claude Heard ..... Derrick.
Independent Oil & Gas Co.'s No. 1 T. P. Shelley ..... Cored sand showing oil 5,487-88 ft.
Independent Oil & Gas Co.'s No. 1 Huddleston ..... Location.
Independent Oil & Gas Co.'s No. 1 Mercy Academy ..... Derrick.
Independent Oil & Gas Co.'s No. 1 Helen Reilly ..... Derrick.
Independent Oil & Gas Co.'s No. 6 Reilly ..... Cemented 9⅝-in. casing; to test oil sand 3,672-79 ft.
Independent Oil & Gas Co.'s No. 2 West ..... Comp. flowing 700 bbls. oil 3,656-77 ft.
Independent Oil & Gas Co.'s No. 3 West ..... Derrick.
Edwin M. Jones' No. 1-A Leisering ..... Drlg. gumbo 1,761 ft.
Edwin M. Jones' No. 1-A J. F. B. Heard ..... Derrick.
Edwin M. Jones' No. 1-A Mitchell ..... Location.
Edwin M. Jones' No. 1 Jeter ..... Rig.
Larco Oil Co.'s No. 2 Strauch ..... Cored gas sand 3,658 ft.
Mission Drlg. Co.'s No. 1 Moss ..... Drlg. shale 961 ft.
Morgan & Morgan's No. 1 Rooke ..... Drlg water sand 3,707 ft.
Morgan Oil Corp.'s No. 1 Swift ..... Comp. flowing 280 bbls. oil; sand 3,671-96 ft.
Morgan Oil Corp.'s No. 4 City ..... Comp. flowing 800 bbls. oil; sand 3,688-3,706 ft.
Morgan Oil Corp.'s No. 5 City ..... Rig.
Morgan Oil Corp.'s No. 1 Hornburg ..... Drlg. shale and lime 3,232 ft.
Morgan Oil Corp.'s No. 1 Fox, Block 70 ..... Derrick.
Morgan Oil Corp.'s No. 1 Fox, Block 71 ..... Set screen to test 3,704 ft.
Morgan Oil Corp.'s No. 1 Tom Heard ..... Drlg. gumbo 2,965 ft.
Morgan Oil Corp.'s No. 1 Carlysle, Block 2 ..... Set 12½-in. casing 1,185 ft.
Morgan Oil Corp.'s No. 1 Powers ..... Drlg. shale 838 ft.
Olgufer Oil Co.'s No. 3 Ryalls ..... Rig.
Pearson Properties' No. 1 Ryalls ..... Drlg. rock 1,290 ft.
Ed Price et al's No. 1 Mission River ..... Drlg. hard sand 989 ft.
Refugio Oil Corp.'s No. 1 Wheeler heirs ..... Set screen to test oil sand 3,675-87 ft.
Rutherford Traylor Oil Co.'s No. 1, Block 77 ..... Comp. flowing 1,000 bbls. oil; sand 3,674-3,709 ft.
Saxet Oil Co.'s No. 1 Cable ..... Comp. flowing 1,100 bbls. oil; sand 3,686-3,700 ft.
Saxet Oil Co.'s No. 2 Cable ..... Derrick.
Saxet Oil Co.'s No. 3 Holmes Heard (old well) ..... Drlg. sandy lime 4,303 ft.
Saxet Oil Co.'s No. 1 Fox, Blk. 95 ..... Location.
Saxet Oil Co.'s No. 1 Powers, Blk. 3 ..... Location.
Saxet Oil Co.'s No. 1 Serafino, Blk. 5 ..... Location.
Sun Oil Co.'s No. 3 Buckley, Lot 5, Blk. 2 ..... Started drilling.
The Texas Company's No. 1 Shelton ..... Drlg. hard shale and lime 4,525 ft.
Union Prod. Co.'s No. 2 O'Brien ..... Total depth 5,588 ft.; oil sand 5,554-68 ft.; set 4½-in. casing.
Union Prod. Co.'s No. 1 Tom Heard, Block 3 ..... Rig.
Union Prod. Co.'s No. 1 Ben Shelton ..... Oil sand 5,497-5,503 ft.; testing.
Union Prod. Co.'s No. 2 J. F. B. Heard ..... Drlg. gumbo and lime 3,324 ft.
Union Producing Co.'s No. 1-A Rose Lambert ..... Drlg. hard shale and lime 3,097 ft.

**SOUTH LOUISIANA FIELDS**

**LOCKPORT—CALCASIEU PARISH**

Vacuum Oil Co. & Gulf Refining Co.'s No. 25 Miller .... Drlg. rock 3,427 ft.
Vacuum Oil Co. and Gulf Refining Co.'s No. 26 Miller ... Derrick.
Vacuum Oil Co. & Gulf Refining Co.'s No. 27 Miller .... Location.
Vacuum Oil Co. & Gulf Refining Co.'s No. 8 Bordages ... Drlg. hard sand 3,922 ft.

**HACKBERRY—CAMERON PARISH**

Calcasieu Oil Co.'s No. 1 Verdine ..... Rig.
Calcasieu Oil Co.'s No. 5 Caldwell ..... Rig.
Sunshine Oil Co.'s No. 6 Ellender ..... Derrick.
Rex Petroleum Corp.'s No. 1 Duhon ..... Bailed dry; standing.
Rycade Oil Corp.'s No. 1 Gulf Land ..... Rigging up to deepen 4,349 ft.
Star Petroleum Co.'s No. 1 Lacey ..... Standing 1,867 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Rigging up.

**JENNINGS—ACADIA PARISH**

Cline, Smith & Cline's No. 9 Conklin ..... Drlg. 1,833 ft.
The Texas Company's No. 5 Rayne heirs (King tract) .. Drlg. 6,536 ft.
Yount Lee Oil Co.'s No. 1 E. F. Simms (northwest side) .. Drlg. 7,274 ft.
Yount Lee Oil Co.'s No. 8 Houssiere-Latrielle, Section 47-9s-2w ..... Drlg. 3,699 ft.
Yount Lee Oil Co.'s No. 6 Crowley ..... Location.

**EDGERLY—CALCASIEU PARISH**

Drysdale-Savoy Oil Co.'s No. 2 Hill (workover) ..... Rigging up to pump 3,164 ft.
Rex Petroleum Co.'s No. 1 Hunter ..... Rig.
Strange Oil Co.'s No. 1 Reed ..... Testing oil sand 3,689 ft.
Strange Oil Co.'s No. 1 Koonce ..... Drlg. 3,726 ft.

**VINTON—CALCASIEU PARISH**

Gulf Refining Co.'s No. 49 Star-Vincent ..... Comp. pumping 126 bbls.; 2 per cent b.s. and water 2,418 ft.
Marrs McLean's No. 4 Gray (workover) ..... Drlg. 2,067 ft.
Vinton Petroleum Co.'s No. 5 Matilda Gray ..... Pulled stuck drill stem 2,692 ft.
Vinton Petroleum Co.'s No. 6 Matilda Gray ..... Location.
Wilson Broach's No. 1 Vinton ..... To pump 3,365 ft.

**BAYOU BOUILLON—ST. MARTIN PARISH**

Rycade Oil Corp.'s No. 9 Bouillon fee ..... Drlg. gumbo 870 ft.
Rycade Oil Corp.'s No. 5 Atchafalaya fee ..... Coring shale 3,084 ft.
The Texas Company's No. 2 St. Martin Land Co. ..... Drlg. hard sand 4,825 ft.

**STARKS—CALCASIEU PARISH**

J. O. Davis' No. 1 Industrial ..... Fishing 3,744 ft.

**SWEET LAKE—CAMERON PARISH**

Pure Oil Co.'s No. 8 Yount Lee (workover) ..... Drlg. sandy shale 5,119 ft.
Pure Oil Co.'s No. 9 Yount Lee ..... Fishing 3,464 ft.

**ANSE LA BUTTE—ST. MARTIN PARISH**

Yount Lee Oil Co.'s No. 1 Hebert ..... Drlg. shale 3,912 ft.

**SORRENTO—ASCENSION PARISH**

Gulf Refining Co.'s No. 17 United Land Co. ..... Drlg. 3,189 ft.

**MISCELLANEOUS WILDCATS**

**TEXAS**

**AUSTIN COUNTY**

Black Oil Co.'s No. 1 Lancashire, near Sealey ..... Shut down 1,965 ft.
O'Hara et al's No. 1 Batla, near Raccoon City ..... Shale; total depth 3,073 ft.
McInnery et al's No. 1 McDay, west of Kinney ..... Shut down 328 ft.

**BRAZORIA COUNTY**

Mills Bennett Production Co.'s No. 1 Allen, Allen Dome .. Set screen to test 4,957 ft.
Faust et al's No. 5 Faust ..... Drlg. sandy shale 3,510 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins .. Drlg. 345 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Drlg. shale 3,956 ft.
Steel & Strickland's No. 1 Lockridge ..... Rig.
Word Drlg. Co.'s No. 1 Proctor, west of Hoskins Mound .. Drlg. 521 ft.

**CHAMBERS COUNTY**

Shell Petroleum Corp.'s No. 1 Herff, Moss Bluff ..... Moving in material.

**FORT BEND COUNTY**

Gulf Production Co.'s No. 1 Brazos Valley, Clodine .... Drlg. gumbo 3,012 ft.
Pure Oil Co.'s No. 1 Jackson Brown, Barrett and Harris Sur. ..... Rig.

**GRIMES COUNTY**

Cranfill & Reynolds Oil Co.'s No. 1 Baylor, southeast Navasota ..... Rig.

**HARRIS COUNTY**

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,055 ft.
Buffalo Oil Co.'s No. 1 Beall, Eureka ..... Drlg. shale 3,618 ft.
A. F. Beiunek's No. 1 Thompson ..... Rig.
Cranfill & Reynolds' No. 1 Brown ..... Drlg. sand 5,580 ft.
Higgins Oil & Fuel Co.'s No. 1 Sladous, Mykawa ..... Drlg. shale and sand 5,072 ft.
Humble Oil & Refg. Co.'s No. 7 Warren, Hockley ..... Drlg. shale and lime 2,996 ft.
Humble Oil & Refg. Co.'s No. 2 Minnetex ..... Standing with casing cem. 1,177 ft.
Humble Oil & Refg. Co.'s No. 1 Sladous (workover) .... Drlg. shale 4,820 ft.
Humble Oil & Refg. Co.'s No. 2 Woodburn ..... Drlg. salt water sand 4,633 ft.
Rich et al's No. 1 Highlands ..... Derrick.
Watts Brothers' No. 1 Hubert, Mykawa ..... Tested salt water 4,731 ft.

**JEFFERSON COUNTY**

Gulf Production Co.'s No. 8 Bordages ..... Total depth 5,592 ft.; drlg. sidetracked hole 5,145 ft.
Gulf Production Co.'s No. 1-A Guy Junker, Fannett .... Drlg. sand 5,030 ft.
Gulf Production Co.'s No. 1-A Thomas, Fannett ..... Drlg. gumbo 1,486 ft.
Gulf Production Co.'s No. 13 Thomas, Fannett ..... Rig.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey .... No report.
Rosedale Oil Co.'s No. 1 Walker ..... Standing after testing salt water 1,649 ft.
Stilwell Oil Co.'s No. 1 Brinkman ..... Drlg. sandy shale and lime 3,156 ft.
The Texas Company's No. 2 Pipkin, Big Hill ..... Shut down 6,010 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... Drlg. shale 5,716 ft.
Westbury Oil Co.'s No. 1 West, Choate Survey ..... Drlg. gumbo 2,054 ft.

**LIBERTY COUNTY**

Campbell et al's No. 1 fee ..... Rig.
Gulf Production Co.'s No. 1 Weiser ..... Set casing; total depth 5,680 ft.
Gulf Production Co.'s No. 3 Boyt, Hankamer ..... Set casing to test sand and shale showing oil 4,455 ft.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff .... Shut in producer.
Cranfill & Reynolds Co.'s No. 4-A Esperson, Sheeks ..... Drlg. gumbo 3,190 ft.
Cranfill & Reynolds Co.'s No. 6-A Esperson, Sheeks ..... Drlg. shale 2,135 ft.
Cranfill & Reynolds' No. 2 Davis, Sheeks ..... Drlg. 200 ft.

# Here's Cementing Efficiency With Simple Equipment

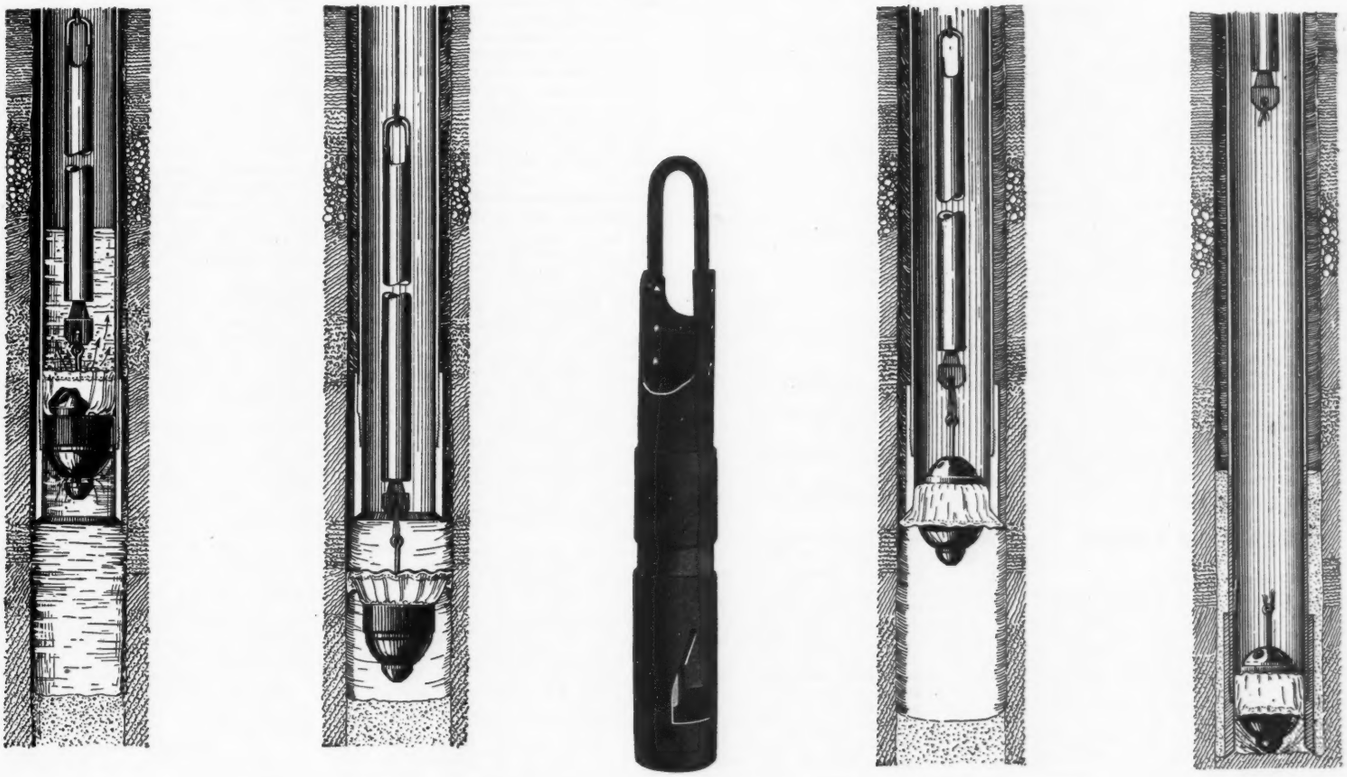
Cementing an oil well is the most important single operation during the drilling operations, and calls for the exercise of every possible precaution to make the job a success.

Operators using the cable tool system have come to depend on the Baker Sure-Shot Cement Plug and the Baker Cement Dump Bailer as the most efficient and practical tools available for this very important job.

The equipment is simple—it is not necessary to rig up the pumps and employ expert cementers.

The Baker Sure-Shot Cement Plug has accomplished some truly remarkable results in the fields of shallower depths, and has demonstrated its ability to perform its functions in a sure, reliable manner.

Write for the Baker catalog insert "Cementing Oil Wells", which contains instructions for operating the Baker Sure-Shot Cement Plug and other valuable information.



The four drawings shown above give a graphic illustration of the manner in which the Baker Sure-Shot Cement Plug is used. It should be run in on the bailer or tools after the cement has been dumped and before the casing is lowered. The Cement Plug is tied close to the Bailer or tools with about five strands of common bailing or light telephone wire. The weight of the Bailer or tools bearing down on the stem will open the relief valve and permit the Cement Plug to run in rapidly.

The Plug is lowered below the casing shoe and then brought back with a stiff pull. When it reaches the Shoe it becomes wedged. The casing is then lowered, landed, and the tie broken.

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Yount Lee Oil Co.'s No. 2 Moores Bluff, Sheeks .....Drlg. shale 6,150 ft.

**MATAGORDA COUNTY**

Cockburn et al's No. 1 Hawkins, Shepherds, Mott .....Drlg. shale 3,126 ft.

**ORANGE COUNTY**

Gulf Production Co.'s No. 1 J. E. Starks, Port Neches ...Drlg. sand and shale 5,990 ft.
Gulf Production Co.'s No. 1 M. H. Starks, Port Neches ...Location.
The Texas Company's No. 2 Polk, Port Neches .....Drlg. gumbo 2,878 ft.
Veteran Oil Co.'s No. 1 Reed, A. Nelson Sur. .....Drlg. sand and shale 4,500 ft.

**WALLER COUNTY**

Kirby Petroleum Co.'s No. 1 Davis, San Felipe .....Shut down 210 ft.
W. P. Morris' No. 1 Chapman, Donoho Sur. .....Shut down 1,867 ft.

**SOUTH LOUISIANA**

**ASCENSION PARISH**

Triumph Oil Corp.'s No. 2 Lacey, Sec. 20-10s-4e .....No report.

**ASSUMPTION PARISH**

Gulf Refining Co.'s No. 1 Armilise, Napoleonville .....Drlg. 3,416 ft.
Poor Boys Drilling Co.'s No. 1 LeBarre, Sec. 47-12s-13e ..Derrick.

**CALCASIEU PARISH**

Wilfred Lahay's No. 2 James .....No report.

**CAMERON PARISH**

Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Sec. 32-12s-3w .....Drlg. sandy lime 7,228 ft.
The Texas Company's No. 5 Calcasieu Lake, Calcasieu Lake Dome .....Building derrick.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w .....Rigging up.

**IBERIA PARISH**

The Texas Company's No. 4 Vermillion Bay .....Drlg. hard sand 5,878 ft.

**IBERVILLE PARISH**

Shell Petroleum Corp.'s No. 4 Wilbert, White Castle ....Drlg. sand and gravel 597 ft.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue... .....Rigging up.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue .....No report.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue .....Derrick.
Standard Oil Co.'s No. 6 Wilbert, Bayou Blue .....Building derrick.
Standard Oil Co.'s No. 1 Case, Bayou Des Glaise .....Rig.

**JEFFERSON DAVIS PARISH**

Pure Oil Co.'s No. 1 May, Sec. 1-10s-5w .....Drlg. tough gumbo 2,032 ft.
Yount Lee Oil Co.'s No. 1 Courtney, Welsh .....Rig.

**LA FOURCHE PARISH**

Gulf Refining Co.'s No. 25 Stark, Thibodaux .....Drlg. 3,306 ft.
Gulf Refg. Co.'s No. 1 City of New Orleans, Bay Champagne .....Drlg. 4,017 ft.

**PLAQUEMINE PARISH**

Humble Oil & Refg. Co.'s No. 1 Cockrell-Moran, Lake Grand Ecaille .....Standing 1,533 ft.
Humble Oil & Refining Co.'s No. 1 Lake Washington, Lake Grand Ecaille .....Shut down for water 4,260 ft.
The Texas Company's No. 3 Garden Island Bay .....No report.
The Texas Company's No. 4 State, Garden Island Bay ....Location.

**ST. LANDRY PARISH**

Elbof Exploration Co.'s No. 1 Ledoux, Eunice.....No report.
Herbert-Baker Oil Co.'s No. 1 Fisher, Section 10-3s-4e...No report.
Gulf Refining Co.'s No. 1 Ovide Lahaye, Port Barre .....Drlg. 3,416 ft.
The Texas Company's No. 4 Botney Bay, Port Barre .....Drlg. 3,100 ft.
The Texas Company's No. 5 Botney Bay, Port Barre ....Location.
The Texas Company's No. 6 Botney Bay, Port Barre ....Location.

**ST. MARTIN PARISH**

The Texas Company's No. 1 fee, Hager Dome .....No report.
The Texas Company's No. 3 fee, Hager .....Location.
The Texas Company's No. 2 St. Martin .....Sec. Bayou Bouillon.
The Texas Company's No. 4 fee, Hager .....Location.
The Texas Company's No. 1 Iberville, Hager .....No report.
The Texas Company's No. 2 Iberville, Hager .....Location.
The Texas Company's No. 3 Iberville, Hager .....Location.

**ST. MARY PARISH**

Louisiana Land & Exloration Co.'s No. 2 Clark, Berwick..No report.
Pure Oil Co.'s No. 1 Wax Lake, Sec. 12-17s-9e .....Derrick.
Vacuum Oil Co.'s No. 1 Zenor, Patterson .....Drlg. sticky shale 1,600 ft.

**TERREBONNE PARISH**

Charles Paggi's No. 2 Evergreen, Sec. 145-15s-16e .....Shut down.
The Texas Company's No. 4 State-Bay St. Elaine .....Derrick.
The Texas Company's No. 2 La. L. & E. Co., Dog Lake..Drlg. gumbo 5,582 ft.
The Texas Company's No. 2 State, Lake Pelto .....Location.
The Texas Company's No. 3 State—Lake Pelto.....Drlg. rock 4,212 ft.
The Texas Company's No. 2 State—Caillou Island.....Bailing 3,243 ft.
The Texas Company's No. 3 State, Caillou Island .....Location.
The Texas Company's No. 3 State—Lake Barre .....Set 12½-in. casing 1,086 ft.
The Texas Company's No. 4 State, Lake Barre .....Location.
The Texas Company's No. 3 L. L. & E. Co., Four Isle ....Location.

## OKLAHOMA FIELDS

(Continued from Page 52)

Section 31-6-9w, Caddo County, swabbed 100 bbls. from sand at 3,295-3,315 feet. Magnolia Petroleum Corp.'s No. 7 Rowe, NW cor. SW NE, Section 36-6-10w, is making 800 bbls. of oil from sands at 3,156-65 feet, 3,238-40 feet, and 3,268-70 feet. Same company's No. 3 Niles, SE cor. NW, Section 36-6-10w, Caddo County, was shut down at 3,860 feet.

Ramsey Petroleum Corp. has announced a new location for a deep test on the edge of the Cement Field in Caddo County. The test is located on a large block of acreage which has been acquired since the deeper sand was uncovered in the area. The new location is located in the NW cor. NW SW SE, Section 31-6-9w.

Neff and others' No. 1 Chapman, C SW NW, Section 20-4s-5, Johnson County, is a location. This wildcat test is north of Russett, and is located on a block of 1,800 acres.

Marshall County has a dry hole and a new wildcat test 2½ miles north of production. Dennis & Horsman's No. 1 McComas, SW cor. NE SW, Section 13-5s-5, Marshall County, has been abandoned at 676 feet. It was abandoned after testing sands at 534-53 feet and 645-70 feet. Cline and others' No. 1 Bynum, SW cor. SE NW, Section 2-5s-5, is spudding. It is located 2½ miles north of production.

### Konawa Production Curtailed

The new Konawa Pool in Township 6-6, Seminole County, has been placed under a 75 per cent curtailment plan. This has reduced the daily average production in the pool from a potential of 6,000 bbls. to around 1,800 bbls. a day. The six completed wells in the field made a total of 1,798 bbls. on the gauge of February 7. E. L. Harris and others' Nos. 1 and 2 in Section 8-6-6, made 547 bbls.; Independent Oil & Gas Co.'s No. 1 in Section 8-6-6, 374 bbls.; Empire Oil & Refining Co.'s No. 1 in Section 9-6-6, 192 bbls.; Gypsy Oil Co.'s No. 1 Harjoche, in Section 8-6-6, 305 bbls.; Champlin Oil & Refining Co.'s No. 1 in Section 9-6-6, 480 bbls., at a total depth of 2,872 feet. Mid-Continent Petroleum Corp.'s No. 1 Harjoche in Section 8-6-6, cored a sand at 2,924-28 feet, with a showing of oil and water. The test was drilling at 2,930 feet in shale. Prairie Oil & Gas Co. has staked two new locations south of the production in the pool. No. 1 Griffin in Section 17-6-6, was drilling at 2,881 feet in shale. The new locations were No. 2 Griffin, NE cor. SE NE, Section 17-6-6, No. 3 Griffin, SE cor. NE, Section 17-6-6. E. L. Harris and others' No. 4 Harjoche, SE cor., Section 8-6-6, was drilling at 2,860 feet with nothing showing.

### Sasakwa Pool

Several tests in Sasakwa area were expecting to reach the pay horizon in a short time. Pure Oil Co.'s No. 8 Bates, NE cor., Section 13-7-6, north of the production, flowed 194 bbls. from a total depth of 2,827 feet. Blackwell Oil & Gas Co.'s No. 1 Hall, SW cor. SE SE, Section 6-6-8, had a showing of oil in the Simpson at 4,295-4,300 feet, and was drilling deeper at 4,315 feet. Sinclair Oil & Gas Co.'s No. 2 Davis, NE cor. SW, Section 7-6-8, flowed 30 bbls. in 15 minutes from a total depth of 2,804 feet.

### East Earlsboro

The potential production of the East Earlsboro Pool is estimated at 125,000 bbls. if all the producing wells were allowed to flow wide open. Prairie Oil & Gas Co.'s No. 1 Wilson, SW cor. Section 8-9-6, swabbed 33 bbls. in three and one-half hours from a total depth of 4,280 feet. Carter Oil Co.'s No. 4 Taylor, NE cor. SW SW Section 19-9-6, swabbed 515 bbls. in 12 hours from the Wilcox sand at a total depth of 4,153 feet. Producers & Refiners Corp.'s No. 4 Jefferson, SE cor. NW SE Section 19-9-6, was shot with 10 quarts in the Wilcox sand at 4,187-4,213 feet and swabbed 160 bbls. in eight hours. Tidal Oil Co.'s No. 3 Lasley, NW cor. SW SE Section 19-9-6, swabbed 250 bbls. in 22 hours from the Wilcox sand at 4,163-83 feet.

Two new oil wells were added to the East Little River area and one gas well. Prairie Oil & Gas Co. and others' No. 1 Harjo in Section 8-7-7 flowed 65 bbls. in 22 hours from a total depth of 3,199 feet. Same firm's No. 3 Harjo, SE cor. NE SW Section 8-7-7, flowed 120 bbls. of oil and some water in 20 hours from a total depth of 3,195 feet. Gypsy Oil Co.'s No. 4 Davis, SW cor. SE Section 5-7-7, made 35,000,000 feet of gas from sand at 3,218-38 feet. Same company's No. 1 Factor, NW cor. Section 19-7-7, will be deepened to the Wilcox sand from a total depth of 3,123 feet, where it is making about 10,000,000 feet of gas.

Magnolia Petroleum Co.'s No. 1 Coker in Section 13-7-6, Little River Pool, was showing 300 feet of oil in the hole from Simpson sand at 4,141 feet. The test was drilling deeper. Shell Petroleum Corp.'s No. 1 A. Ceaser, NW cor. SE NE Section 11-7-6, flowed 851 bbls. from the Cromwell sand at 3,096-3,147 feet the first 24 hours.

### Earlsboro Production Up

The older part of the Earlsboro Pool has an increase in production of 2,000 bbls. a day over the previous week. South of the old production two new wildcat tests found oil in the Wilcox sand and resulted in good-sized wells. Several offsets have been started. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1 Grounds, SE cor. NE NE Section 22-9-5, swabbed 720 bbls. in 12 hours from the Wilcox sand at a total depth of 4,207 feet, which is 5 feet deeper in the sand. Magnolia Petroleum Corp.'s No. 1 Grounds, NE cor. NW Section 23-9-5, has been tubed ready to pump. The owners have agreed to produce only 100 bbls. a day from the well for the next 75 days. The well was estimated to be a 1,000-bbl. producer.

Bowlegs, Mission, Maud, Seminole and East Seminole Pools will show small declines in production over the previous week.

St. Louis Pool is still showing a steady decline. The average daily decline for the week was 700 bbls. The daily average production of the pool was 42,100 bbls. from 454 wells. The Atlantic Oil Producing Co. and Wofford Drilling Co.'s No. 1 McGee, NE cor. NW SE, Section 4-7-4, which extended production in the St. Louis Pool to the northwest by finding oil in the Hunton lime, was drilled deeper and encountered water in the Simpson. The Simpson was found at 4,253-70 feet where it had a hole full of sulphur water. The test will be plugged back to the Hunton lime. Magnolia Petroleum Co.'s No. 1 Hilton, NE cor. NW NW, Section 22-7-4, made 492 bbls. from the Simpson at 4,168 feet. Same company's No. 4 Banta, in Section 14-7-4, swabbed 99 bbls. from the Hunton. The test was drilling deeper at 4,065 feet in Sylvan shale. Gypsy Oil Co.'s No. 1 Smith was drilling in Hunton at 3,830 feet, where it swabbed and flowed 70 bbls. Prairie Oil & Gas Co.'s No. 1 McGee, SE cor. NW Section 4-7-4, flowed 680 bbls. from the Hunton lime at 3,840 feet.

### Noble County Field Work Delayed

Noble County's development may be delayed until the early part of the summer. New tests in the vicinity of the Magnolia Petroleum Co.'s No. 1 Young, NE cor. NW NW, Section 22-21-2w, Noble County, are expected to be held in check until the market conditions are better. The Magnolia Petroleum Co. has a considerable block of acreage surrounding the new wildcat well. The well has been averaging about 1,000 bbls. a day from a sand at 5,000-05 feet. Same company has a new test in the SE cor. SW SW, Section 15-21-2w, and another in the NE cor. SE, Section 21-21-2w.

Peerless Oil Producing Co. and others' No. 1 Wentz, NW cor. SW, Section 22-22-1, has encountered water at 3,316 feet. The test had a good showing of oil at 3,282-3,300 feet. It may be plugged back to the oil showing and a production test made.

Gypsy Oil Co.'s No. 1 Bergstrom, SE cor. NW, Section 28-22-1w, a wildcat, is still building the rig after being delayed for a month on account of the weather conditions.

### Seminole Production

The production of the important pools in the Greater Seminole district declined on the gauge for the week ending Thursday, February 5. The Seminole area averaged 214,847 bbls. from 1,820 wells. The daily average gauges were as follows:

| Pools— | Wells | Bbls. |
|---|---|---|
| Little River | 360 | 44,869 |
| East Little River | 55 | 20,160 |
| Carr City | 58 | 7,932 |
| Maud | 136 | 5,981 |
| Mission | 110 | 12,801 |
| Bowlegs | 293 | 21,046 |
| Earlsboro | 296 | 29,980 |
| East Earlsboro | 121 | 38,842 |
| Seminole | 273 | 22,157 |
| East Seminole | 31 | 3,685 |
| Searight | 87 | 7,394 |
| Allen | 246 | 23,464 |
| Asher | 26 | 2,204 |
| Konawa | 6 | 3,197 |
| St. Louis | 454 | 41,297 |
| Sasakwa | 41 | 10,347 |
| Total | 2,593 | 295,356 |

The daily average pipe line and tank car shipments in the same seven days show a decline of approximately 8,000 bbls. a day from the previous week in the Seminole area. The shipments for the week ending February 5 were as follows:

| Company— | Bbls. |
|---|---|
| Barnsdall | 2,664 |
| Champlin | 4,539 |
| Continental | 1,230 |
| Consolidated | 566 |
| Cosden | 6,675 |
| Empire | 5,991 |
| Gypsy | 22,185 |
| Magnolia | 11,811 |
| Oklahoma | 35,672 |
| Prairie | 29,994 |
| Producers & Refiners | 1,825 |
| Pure | 5,176 |
| Shaffer | 5,913 |
| Shell | 16,776 |
| Sinclair | 30,791 |
| Texas | 21,751 |
| Tidal | 11,430 |
| White Oak | 620 |
| Total | 215,609 |
| Tank cars | 6,427 |
| Grand total | 222,036 |

### Creek County

Empire Oil & Refining Co. made location for No. 4 Bigpond, NW cor. SW NW, Section 36-15-7.

### Lincoln County

Magnolia Petroleum Co.'s No. 2 Staubus, NE cor. SW SE, Section 8-14-4, made 190 bbls. in sand 5,005-36 feet.

### Okfuskee County

Atlantic Oil Producing Co.'s No. 1 Jackson, NW cor. SW, Section 35-11-11, is rigging up to deepen from 2,508 feet. The Prairie Oil & Gas Co. staked location for No. 1 Day, SW cor., Section 4-13-10. No. 1 Beidleman, NE cor., Section 8-13-10, has been completed for 75 bbls. in Wilcox sand 3,366-79 feet.

### Caddo County

Ramsey Petroleum Co. made location for No. 1 Lucy Jones, NW cor. SW SE, Section 31-6-9w. Magnolia Petroleum Co.'s No. 7 Caddo Rowe, NW cor. SW NE, Section 36-6-10w, is flowing 600 bbls. in sand 3,267-76 feet.

### Carter County

Magnolia Petroleum Co. staked location for No. 3 Putman, SE cor. NE SW, Section 30-1s-3w. The rig is up for No. 5 Hightower, SE cor. SW NE, Section 30-1s-3w.

### Hughes County

Inglehart and others' No. 1-B Brooks, C NW SW, Section 28-9-10, has been abandoned at 240 feet. The Prairie Oil & Gas Co.'s No. 1 Coker, C SW SW, Section 12-7-8, made 2,400,000 feet of gas in sand 2,920-30 feet.

### Marshall County

Burrough & Dennis' No. 1 McComas, SW cor. NW SW, Section 13-5s-5, is a

dry hole at 650 feet. Westheimer's No. 1 Watts, NW cor. NE, Section 26-5s-5, has been abandoned at 590 feet.

**Noble County**

The Prairie Oil & Gas Co. and others' No. 1 Wentz, NW cor. SW, Section 22-22-1, drilled to 3,314 feet, plugged back to 3,310 feet and was completed for 150 bbls.

**Pontotoc County**

The Texas Pacific Coal & Oil Co.'s No. 3 Hatcher, NW cor. NE NE, Section 30-5-5, made 60 bbls. in sand 2,490-2,520 feet. Delaney & King's No. 1 Adams, SW cor. SE NE, Section 32-5-8, has been abandoned at 1,302 feet.

**Pottawatomie County**

Osage Indian Development Co.'s No. 1 Townsite, Block 45, Lot 1, SW cor. NE SW, Section 8-9-5, Earlsboro Pool, is rigging up. Continental Oil Co. and others made location for No. 3 Brandenburg, NE cor. SE SE, Section 34-8-4, St. Louis Field. Mid-Continent Petroleum Corp.'s No. 6 Rogers, NE cor. SW SW, Section 5-9-5, Earlsboro Pool, has been completed for 165 bbls. in Wilcox sand 4,330-80 feet. Magnolia Petroleum Co.'s No. 1 C. Billington, SW cor., Section 30-9-5, is dry and abandoned at 4,440 feet. Amerada Petroleum Corp.'s No. 3 Smith, NE cor., Section 8-8-5, has been abandoned at 4,069 feet.

**Seminole County**

Denver Producing & Refining Co. made location for No. 1 P. Carbitcher, SW cor. NW SE, Section 14-9-5, South Earlsboro extension. Gypsy Oil Co. moved the rig in for No. 1 Carbitcher, SW cor. SE, Section 14-9-5. Magnolia Petroleum Co. staked location for No. 1 Carbitcher, SE cor. SW, Section 14-9-5. Amerada Petroleum Corp. and others made location for No. 1 Grounds, SW cor. NW NW, Section 23-9-5. Tidal Oil Co. and British-American Oil Co.'s No. 5 Lasley, NE cor. SE SE, Section 19-9-6, East Earlsboro Pool, is a cellar. Carter Oil Co. made location for No. 5 Campbell, NW cor. SW SW, Section 20-9-6. Barnsdall Oil Co. staked location for No. 1 Johnson, NE cor. SE, Section 17-6-6, Konawa Pool. The Prairie Oil & Gas Co.'s No. 1 Anders, NW cor., Section 23-6-6, is rigging up. Producers & Refiners Corp.'s No. 1 Factor, NW cor. SW, Section 30-6-6, is digging a cellar.

Continental Oil Co.'s No. 1 Maguire, NE cor. SE SE, Section 24-9-5, East Earlsboro Pool, had Wilcox sand 4,167-85 feet and made 2,140 bbls. Carter Oil Co.'s No. 2 C. Mayhue, SE cor. SW, Section 11-9-6, has been completed for 805 bbls. in Wilcox sand 4,156-66 feet. Burke-Greis Oil Co. and others' No. 2 Powell, SW cor. NE SW, Section 17-9-6, is dry and abandoned at 4,300 feet. Shell Petroleum Corp.'s No. 8 Hopper, SE cor. NE, Section 19-9-6, has been completed for 4,018 bbls. in Wilcox sand 4,186-4,213 feet. Sinclair Oil & Gas Co.'s No. 8 Nichols, NW cor. NE NW, Section 19-9-6, made 555 bbls. on gas from Wilcox sand 4,229-55 feet. The Texas Company's No. 1 Magruder, SW cor. NW, Section 19-9-6, flowed 135 bbls. on air from Wilcox sand 4,145-49 feet. No. 2 Magruder, NE cor. SE NW, Section 19-9-6, had Wilcox sand 4,160-80 feet and flowed 1,885 bbls. on air. No. 4 Magruder, NW cor. SE NW, Section 19-9-6, topped Wilcox sand at 4,229 feet, drilled to 4,250 feet and made 690 bbls. on air. Gypsy Oil Co.'s No. 4 Maley, SE cor. NW NW, Section 20-9-6, has been completed for 655 bbls. in Wilcox sand 4,244-57 feet. Independent Oil & Gas Co. and Atlantic Oil Producing Co.'s No. 2 Fixico, NE cor. SW NW, Section 20-9-6, has been completed for 1,535 bbls. in Wilcox sand 4,214-32 feet. No. 3 Fixico, SW cor. NW, Section 20-9-6, made 2,917 bbls. on gas from Wilcox sand 4,217-35 feet. Gypsy Oil Co. and others' No. 1 Bruner, NE cor. SE NW, Section 23-8-5, has been abandoned at 4,336 feet. Superior Oil Corp. and Magnolia Petroleum Co.'s No. 2 Reed, SE cor. NW NW NW, Section 9-7-7, East Little River Pool, drilled to 4,310 feet in second Wilcox sand and has been abandoned. Gypsy Oil Co.'s No. 1 Factor, NW cor., Section 19-7-7, has been completed for 10,000,000 feet of gas in Cromwell sand 3,112-23 feet. Sinclair Oil & Gas Co.'s No. 1 Culley, SW cor. NW NW, Section 13-5-7, West Allen Pool, is producing 65 bbls. in Wilcox sand 4,362-93 feet. No. 2 Culley, NW cor., Section 13-5-7, made 65 bbls. in Wilcox sand 4,362-73 feet. The Prairie Oil & Gas Co.'s No. 4 D. Campbell, SW cor. SE NW, Section 6-9-6, has been shot with 20 quarts and made 400 bbls. in Wilcox sand 4,310-32 feet. Producers & Refiners Corp.'s No. 1 Harjo, SW cor. NW, Section 7-5-8, made 3,000,000 feet of gas in sand 2,644-53 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 2 Tiger, SW cor. NW NE, Section 8-7-7, has been completed in Gilcrease sand 3,142-88 feet for 1,244 bbls.

**Stephens County**

Pelwin Oil Co. made location for No. 1 Perdy, NW cor. NE NE, Section 3-1s-9w. T. B. Slick's No. 1 Blake, NE cor. SW SW, Section 16-1s-8w, has been abandoned at 2,877 feet. Dunmar Oil Co.'s No. 1 Anderson, SE cor., Section 9-2s-6w, is flowing 350 bbls. from sand 2,848-53 feet. Wirt Franklin Petroleum Corp.'s No. 2 Spain, SW cor. NW, Section 9-2s-6w, is flowing 250 bbls. from sandy shale 3,101-44 feet.

**Tulsa County**

A. G. Cory and others made location for No. 1 Rentie, NE cor. NW, Section 31-19-10.

**Garfield County**

Champlin Oil & Refining Co. made location for No. 1 Gibson, SW cor. SE SE, Section 25-23-4w.

**Haskell County**

Midwestern Oil & Gas Co. moved the rig in for No. 1 Polster, C NE SE, Section 33-10-22.

**Harper County**

Empire Oil & Refining Co. made location for No. 1 Bruce, SW cor. NE NE SW, Section 12-25-20w.

**Kay County**

Empire Oil & Refining Co. has the rig up and tools in for No. 1 Maple, SW cor., Section 20-27-4. Blackwell Oil & Gas Co.'s No. 2 Liegrote, NW cor. SE NE, Section 29-25-1w, has been completed for 30 bbls. at 4,338 feet after plugging back from 4,460 feet.

**Logan County**

Shell Petroleum Corp.'s No. 4 Storey, SE cor. NE SW, Section 30-19-4w, Roxana Pool, has been completed for 787 bbls. in Wilcox sand at 5,979 feet after plugging back from 6,002 feet. J. S. Cosden, Inc.'s No. 2 Gardner, NW cor. NE NW, Section 31-19-4w, made 402 bbls. at 5,958 feet in Wilcox sand topped at 5,835 feet.

**Muskogee County**

John Aggas has a machine on the location for No. 3 M. Wheat, CNL SE SW, Section 28-16-15. Bryan Petroleum Co.'s No. 1 Rolland, NW cor. SW, Section 19-16-16, is spudding. C. D. Bradley's No. 1 Robinson, NE cor. SW SE, Section 20-15-19, is spudding. Muskogee Natural Gas Co.'s No. 3 Smith, SE cor. NW SE SE, Section 18-13-19, is dry and abandoned at 980 feet.

**Oklahoma County**

Cromwell & Franklin made location for No. 2 Thompson, SW cor. NE, Section 15-12-3w, Oklahoma City Pool. Indian Territory Illuminating Oil Co. and others staked location for No. 11 Trosper, SW cor. NW SW, Section 13-11-3w. Villines & Smith made location for No. 1 Spanagle, NE cor. NW NE, Section 15-11-3w. Citizens Oil Syndicate's No. 1 Sage-Barker, NE cor., Section 21-11-3w, is a cellar. Indian Territory Illuminating Oil Co.'s No. 3 Button, NW cor. SW, Section 19-11-2w, made 11,118 bbls. in lime 6,015-6,516 feet.

**Okmulgee County**

I. M. Levine and others' No. 2 Warner, NW cor. SE NW, Section 24-14-12, is drilling deeper at 1,590 feet. J. L. Selby's No. 2-A Flint, CSL NE NW, Section 26-14-14, is drilling at 80 feet. Dodge, Chaney & Jenkins' No. 1-A Fee, SW cor. SE, Section 28-15-12, is dry and abandoned at 2,677 feet. J. L. Selby's No. 18 Flint, SW cor. NW NE, Section 26-14-14, has been abandoned at 1,060 feet.

**Pawnee County**

Martin and others' No. 6 Cotton, CNL S half NE SW, Section 6-20-8, has been deepened to 2,619 feet and is making 170 bbls. It will probably be deepened more.

## PRODUCTION OF SEMINOLE POOL

**Average daily production of the Seminole area for the week ending February 3:**

| Company, farm— | S.T.R. | Wells | Prod. |
|---|---|---|---|
| Amerada: | | | |
| Nitey | 2-7-6 | 3 | 246 |
| Amerada-Wilcox: | | | |
| Fore | 35-8-6 | 2 | 412 |
| Barnsdall: | | | |
| Cotcha | 23-7-6 | 3 | 90 |
| Factor | 13-7-6 | 1 | 86 |
| Hotulka | 22-7-6 | 3 | 248 |
| Walker | 4-7-6 | 1 | 3 |
| Blackwell: | | | |
| Baker | 11-7-6 | 5 | 396 |
| Nitey | 35-8-6 | 5 | 141 |
| Talley | 14-7-6 | 4 | 876 |
| Thomas | 11-7-6 | 1 | Off |
| Bryan-Emery: | | | |
| Carter | 4-7-6 | 1 | 12 |
| Carter: | | | |
| Alec | 23-7-6 | 2 | 109 |
| Cotcha | 23-7-6 | 3 | 78 |
| Cudjo | 23-7-6 | 3 | 156 |
| Factor | 26-7-6 | 1 | 31 |
| Fish | 36-8-6 | 3 | 250 |
| Harjo, C. | 11-7-6 | 2 | 1,581 |
| Harjo, M. | 13-7-6 | 4 | 194 |
| Jackson | 11-7-6 | 5 | 1,731 |
| Larney, B. | 26-7-6 | 2 | 214 |
| Larney, J. | 24-7-6 | 4 | 870 |
| Lena | 10-7-6 | 1 | 245 |
| Moore | 11-7-6 | 2 | 76 |
| Tewee | 14-7-6 | 6 | 435 |
| Thomas, M. | 11-7-6 | 1 | 145 |
| Walker | 24-7-6 | 4 | 2,460 |
| Wilson | 12-7-6 | 1 | 105 |
| Champlin: | | | |
| Tewee | 14-7-6 | 3 | 639 |
| Continental: | | | |
| Cosar, L. | 36-8-6 | 7 | 521 |
| Cosar, M. | 25-8-6 | 1 | 189 |
| Milsey | 11-7-6 | 2 | 245 |
| Empire: | | | |
| Charty | 24-7-6 | 3 | 540 |
| Coker | 13-7-6 | 4 | 1,362 |
| Cotcha | 27-7-6 | 2 | Off |
| Sandlin | 3-7-6 | 1 | Off |
| Gypsy: | | | |
| Brown, C. | 33-8-6 | 1 | 190 |
| Brown, M. | 33-8-6 | 1 | 117 |
| Campbell | 36-8-6 | 1 | 3 |
| Conard | 22-7-6 | 2 | 44 |
| Cosar, W. | 36-8-6 | 2 | 65 |
| Cotcha | 23-7-6 | 13 | 703 |
| Denmark | 11-7-6 | 3 | 357 |
| Hulhoke | 14-7-6 | 11 | 633 |
| Nungee | 1-7-6 | 1 | Off |
| Potty | 36-8-6 | 4 | 171 |
| Renton | 11-7-6 | 5 | 2,064 |
| Willie | 24-7-6 | 2 | 2,338 |
| Independent: | | | |
| Carpenter | 27-7-6 | 2 | 257 |
| Davis, R. | 13-7-6 | 7 | 644 |
| Tewee | 14-7-6 | 6 | 905 |
| Harris | 23-7-6 | 13 | 1,088 |
| Williams | 15-7-6 | 1 | 275 |
| Independent et al: | | | |
| Davis, L. | 2-7-6 | 5 | 651 |
| Reed | 26-7-6 | 1 | Off |
| I. T. I. O.: | | | |
| Campbell | 1-7-6 | 1 | 206 |
| Dungan | 35-8-6 | 3 | 195 |
| House, M. A. | 1-7-6 | 1 | 10 |
| House, W. E. | 1-7-6 | 1 | 12 |
| House, W. E. "B" | 2-7-6 | 4 | 442 |
| Hull | 26-8-6 | 2 | 228 |
| Jackson | 1-7-6 | 3 | 165 |
| McCulla | 1-7-6 | 2 | 426 |
| Nitey | 2-7-6 | 5 | 65 |
| Phoebe "A" | 36-8-6 | 1 | 10 |
| Phoebe "B" | 36-8-6 | 2 | 146 |
| Soketeche | 1-7-6 | 3 | 228 |
| Magnolia: | | | |
| Cruse | 2-7-6 | 4 | 480 |
| Denby | 11-7-6 | 4 | 212 |
| Harjo "A" | 14-7-6 | 2 | 70 |
| Harjo "B" | 14-7-6 | 2 | 56 |
| Potty | 35-8-6 | 4 | 5 |
| Reed | 22-7-6 | 3 | 410 |
| Mid-Continent: | | | |
| Bruner | 11-7-6 | 4 | 90 |
| Eleck | 23-7-6 | 1 | 10 |
| Wadsworth | 36-8-6 | 4 | 35 |
| Pine: | | | |
| Bean | 13-7-6 | 2 | 662 |
| Heyecka | 26-8-6 | 7 | 452 |
| Pine-Phillips: | | | |
| Potty | 35-8-6 | 1 | 32 |
| Prairie: | | | |
| Chilcoat | 25-8-6 | 3 | 335 |
| Coker | 1-7-6 | 2 | 272 |
| Gibson | 14-7-6 | 5 | 680 |
| Harris | 14-7-6 | 4 | 351 |
| House | 2-7-6 | 4 | 55 |
| Reed | 13-7-6 | 2 | 757 |
| Talley | 14-7-6 | 6 | 700 |
| Williams | 15-7-6 | 2 | 137 |
| Wood | 26-7-6 | 3 | 73 |
| Prairie-Amerada: | | | |
| Sunny | 14-7-6 | 5 | 741 |
| Prairie-Slick: | | | |
| Cudjo | 26-7-6 | 4 | 313 |
| Producers & Refiners: | | | |
| Davis | 13-7-6 | 1 | 452 |
| Johnson | 24-7-6 | 2 | 259 |
| Moppin | 24-7-6 | 2 | 71 |
| Pure: | | | |
| Brinson | 24-7-6 | 3 | 484 |
| Cotcha | 23-7-6 | 12 | 1,810 |
| Harjo | 11-7-6 | 5 | 1,910 |
| Hollins | 11-7-6 | 1 | 180 |
| Reiter-Foster: | | | |
| Bunyard | 14-7-6 | 2 | 440 |
| Ritter | 31-7-6 | 1 | 7 |
| Shaffer: | | | |
| McCan | 33-7-6 | 1 | 20 |
| Shell: | | | |
| Ceaser | 11-7-6 | 2 | 49 |
| Glass | 26-7-6 | 1 | 2 |
| Hotulka | 23-7-6 | 5 | 319 |
| Johnson | 13-7-6 | 4 | 432 |
| Sinclair: | | | |
| Blanton | 11-7-6 | 1 | 186 |
| Cosar | 36-8-6 | 3 | 505 |
| Haney | 12-7-6 | 1 | Off |
| Tewee | 14-7-6 | 2 | 630 |
| Pompey | 24-7-6 | 1 | 120 |
| Skelly: | | | |
| Carl | 14-7-6 | 2 | 1,062 |
| Snowden-McSweeny: | | | |
| Tiger | 13-7-6 | 2 | 38 |
| Superior: | | | |
| Pulutka | 31-8-6 | 1 | 2 |
| Texas: | | | |
| Brooks | 25-8-6 | 1 | 9 |
| Coker | 1-7-6 | 3 | 102 |
| Janey | 11-7-6 | 6 | 562 |
| Texas-Independent: | | | |
| Hotulka, D. | 23-7-6 | 7 | 845 |
| Hotulka, H. | 22-7-6 | 2 | 102 |
| Tidal: | | | |
| House | 1-7-6 | 1 | Off |
| Johnson | 1-7-6 | 1 | Off |
| Twin State: | | | |
| Lowe | 25-8-6 | 1 | 19 |
| Total | | 360 | 44,869 |

**East Little River Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Chilcoat | 4-7-7 | 1 | 409 |
| Continental et al: | | | |
| Harrison | 4-7-7 | 5 | 1,250 |
| Gypsy: | | | |
| Payne | 5-7-7 | 6 | 1,747 |
| Walker | 5-7-7 | 3 | 707 |
| Magnolia: | | | |
| Brame | 8-7-7 | 2 | 8 |
| Reed, E. M. | 31-8-7 | 1 | 28 |
| Scipio | 4-7-7 | 1 | 3 |
| Wolf | 20-8-7 | 1 | 28 |
| McCulloch et al: | | | |
| Harrison | 4-7-7 | 1 | Off |
| Mid-Continent: | | | |
| Smith | 5-7-7 | 13 | 5,400 |
| Yarhola | 9-7-7 | 1 | 830 |
| Prairie: | | | |
| Smith | 5-7-7 | 3 | 1,726 |
| Prairie-Slick: | | | |
| Carr | 9-7-7 | 1 | 16 |
| Tiger | 8-7-7 | 2 | 1,011 |
| Producers & Refiners: | | | |
| Lusty | 5-7-7 | 1 | 19 |
| Saketke | 9-7-7 | 1 | 14 |
| Thomas | 5-7-7 | 2 | 563 |
| Sinclair: | | | |
| Phillips | 5-7-7 | 8 | 5,498 |
| Texas: | | | |
| Chilcoat | 4-7-7 | 2 | 994 |
| Total | | 55 | 20,160 |

**Carr City Pool**

| | | | |
|---|---|---|---|
| Barnsdall: | | | |
| Coker | 11-8-5 | 9 | 1,069 |
| Fife | 14-8-5 | 2 | 78 |
| Barnsdall et al: | | | |
| Tulley | 10-8-5 | 1 | 85 |
| Carter: | | | |
| Coker | 2-8-5 | 4 | 2,026 |
| Rogers | 2-8-5 | 1 | 252 |
| Empire: | | | |
| Cluck | 11-8-5 | 13 | 1,628 |
| Gypsy: | | | |
| Coker, Chippy | 2-8-5 | 1 | 997 |
| Fife | 14-8-5 | 1 | 12 |
| I. T. I. O.: | | | |
| Simpson | 10-8-5 | 1 | Off |
| Tulley | 10-8-5 | 1 | Off |
| Magnolia: | | | |
| Fee | 11-8-5 | 3 | 254 |
| Killings | 14-8-5 | 1 | 6 |
| Prairie: | | | |
| Billington | 11-8-5 | 10 | 770 |
| Mitchell | 15-8-5 | 1 | 52 |
| Sinclair: | | | |
| Bean | 11-8-5 | 5 | 318 |
| Harjo, L. | 11-8-5 | 4 | 285 |
| Total | | 58 | 7,932 |

**Maud Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Ballard | 1-8-4 | 1 | 35 |
| Fehlig | 7-8-5 | 1 | 30 |
| Gossland | 8-8-5 | 3 | 36 |
| Gravel | 1-8-4 | 1 | 6 |
| Hallum | 1-8-4 | 4 | 1,064 |
| Smith | 8-8-5 | 1 | 188 |
| Amerada-Barnsdall: | | | |
| Wallace | 17-8-5 | 4 | 96 |
| Amerada-Hull: | | | |
| Green | 20-8-5 | 3 | 41 |
| Continental-Shell: | | | |
| Everett | 18-8-5 | 2 | 15 |
| Empire: | | | |
| Smith | 8-8-5 | 2 | 268 |
| Gypsy: | | | |
| Bourassa | 7-8-5 | 4 | 45 |
| Gossland | 9-8-5 | 3 | 494 |
| Miller | 18-8-5 | 8 | 151 |
| Independent: | | | |
| Harding | 18-8-5 | 4 | 120 |
| I. T. I. O.: | | | |
| State Land | 16-8-5 | 1 | 10 |
| Laurel O. & G.: | | | |
| Billington | 18-8-5 | 3 | 108 |
| Magnolia: | | | |
| Billington | 8-8-5 | 3 | 30 |
| Green | 20-8-5 | 3 | 70 |
| Magnolia-Gypsy: | | | |
| Smith | 20-8-5 | 1 | 35 |
| McMan: | | | |
| Roberts | 9-8-5 | 1 | 199 |
| Mid-Continent: | | | |
| Shelton | 18-8-5 | 3 | 20 |
| Phillips: | | | |
| Hudson | 19-8-5 | 3 | 97 |
| Wallace | 17-8-5 | 1 | 15 |
| Pine: | | | |
| Lingerfelt | 18-8-5 | 2 | 127 |
| Smith | 8-8-5 | 2 | 156 |
| Prairie: | | | |
| Campbell | 18-8-5 | 8 | 56 |
| Jordan | 9-8-5 | 1 | 18 |
| Prairie et al: | | | |
| Villines | 20-8-5 | 1 | Off |
| Pure: | | | |
| Lindley | 18-8-5 | 8 | 76 |
| Urbanskey | 19-8-5 | 2 | 20 |
| Wiley | 8-8-5 | 4 | 409 |
| Shell: | | | |
| Jordan | 9-8-5 | 4 | 474 |
| Sinclair: | | | |
| Bellars | 19-8-5 | 10 | 400 |
| Calvin | 7-8-5 | 3 | 100 |

| Company, farm— | S.T.R. | Wells | Prod. |
|---|---|---|---|
| Lewis | 6-8-5 | 2 | 78 |
| Smith | 9-8-5 | 1 | 180 |
| Skelly-Lenox: | | | |
| Green | 20-8-5 | 1 | 63 |
| Skelly-Margay: | | | |
| Lingerfelt | 18-8-5 | 4 | 83 |
| Texas: | | | |
| Calvin | 7-8-5 | 3 | 128 |
| Tidal: | | | |
| Dunn | 12-8-4 | 1 | 9 |
| Everetts | 18-8-5 | 2 | 31 |
| Smith | 8-8-5 | 1 | 15 |
| Twin State: | | | |
| Colvin | 7-8-5 | 2 | 52 |
| Wilcox O. & G.: | | | |
| Smith | 8-8-5 | 8 | 342 |
| Total | | 136 | 5,981 |

**Mission Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Rice | 5-8-6 | 2 | 232 |
| Carter: | | | |
| Fuswa | 18-8-6 | 3 | 416 |
| Micco | 8-8-6 | 2 | 78 |
| Carter-Denver P. & R.: | | | |
| Melissa | 9-8-6 | 1 | 424 |
| Continental: | | | |
| Maines | 7-8-6 | 4 | 194 |
| Darby: | | | |
| Judy | 1-8-5 | 1 | 45 |
| Gypsy: | | | |
| Baby | 6-8-6 | 1 | 14 |
| Barkus, N. | 6-8-6 | 10 | 1,380 |
| Barkus, S. | 7-8-6 | 1 | 8 |
| Dosar | 7-8-6 | 5 | 515 |
| Hardy | 7-8-6 | 5 | Off |
| Harjoche | 7-8-6 | 3 | 2 |
| Micco, L. | 8-8-6 | 2 | 16 |
| Mission | 5-6-8-6 | 7 | 710 |
| Mosar | 1-8-5 | 4 | 247 |
| Independent: | | | |
| Lawson | 1-8-5 | 5 | 556 |
| Independent-Kistler: | | | |
| Payne | 7-8-6 | 3 | 690 |
| McMahon: | | | |
| Harjo | 7-8-6 | 2 | 800 |
| Mid-Continent: | | | |
| Ripley | 23-8-6 | 1 | 106 |
| Minnehoma: | | | |
| Neal | 7-8-6 | 4 | 520 |
| Pine, W. B.: | | | |
| Harjo | 6-8-6 | 3 | 851 |
| Micco | 8-8-6 | 1 | 28 |
| Prairie: | | | |
| Crain | 7-8-6 | 1 | 22 |
| Melton | 6-8-6 | 3 | 310 |
| Micco | 5-8-6 | 1 | 6 |
| Townsend | 6-8-6 | 2 | 340 |
| Prairie-Gypsy: | | | |
| Owens | 18-8-6 | 2 | 80 |
| Prairie-Slick: | | | |
| Nelly | 12-8-5 | 1 | 146 |
| Shaffer: | | | |
| Weaver | 12-8-5 | 3 | 840 |
| Shell-Continental: | | | |
| Hearndon | 7-8-6 | 3 | 64 |
| Shell-Papoose: | | | |
| Maines | 7-8-6 | 8 | 589 |
| Sinclair: | | | |
| Hardy | 7-8-6 | 4 | 853 |
| Judy | 1-8-5 | 1 | 22 |
| Tidal: | | | |
| Nellie | 12-8-5 | 5 | 937 |
| Twin State: | | | |
| Hayes | 8-8-6 | 2 | 649 |
| Judy | 6-8-6 | 2 | 79 |
| Ripley | 12-8-5 | 2 | 32 |
| Total | | 110 | 12,801 |

**Bowlegs Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Rascoe | 15-8-6 | 6 | 389 |
| Atlantic: | | | |
| Baker | 10-8-6 | 4 | 152 |
| Fleet | 23-8-6 | 3 | 60 |
| Grayson | 13-8-6 | 3 | 362 |
| Jones "A" | 16-8-6 | 2 | 12 |
| Barnsdall: | | | |
| McNac | 28-8-6 | 1 | 11 |
| Morrow | 11-8-6 | 4 | 127 |
| Carter: | | | |
| Bowlegs, I. | 15-8-6 | 4 | 236 |
| Burden | 23-8-6 | 2 | 174 |
| Harjoche | 14-8-6 | 6 | 335 |
| Hilly, D. | 23-8-6 | 3 | 180 |
| Jones | 11-8-6 | 4 | 364 |
| Walker | 16-8-6 | 4 | 272 |
| Wise | 23-8-6 | 11 | 932 |
| Dixie: | | | |
| Lizzy | 11-8-6 | 1 | 4 |
| Empire: | | | |
| Lacey | 14-8-6 | 6 | 110 |
| Wise | 23-8-6 | 2 | 95 |
| Gypsy: | | | |
| Cumsey | 10-8-6 | 4 | 234 |
| Grayson | 13-8-6 | 4 | 72 |
| Harjoche | 10-8-6 | 3 | 124 |
| Jones | 11-8-6 | 1 | 23 |
| Walker | 15-8-6 | 7 | 276 |
| Wise | 23-8-6 | 2 | 30 |
| I. T. I. O.: | | | |
| Barnett, A. | 24-8-6 | 1 | 3 |
| Barnett "B" | 23-8-6 | 1 | Off |
| Billington | 22-8-6 | 3 | 216 |
| Bowlegs | 22-8-6 | 9 | 772 |
| Davis | 13-8-6 | 4 | 35 |
| Fay | 13-8-6 | 9 | 600 |
| Goforth | 15-8-6 | 12 | 768 |
| Livingston | 15-8-6 | 10 | 962 |
| Lizzie | 11-8-6 | 3 | 330 |
| Walker | 15-8-6 | 8 | 402 |
| Williams | 12-8-6 | 1 | 196 |
| Wilmot | 15-8-6 | 4 | 272 |
| Work | 24-8-6 | 1 | 60 |
| Youngblood | 24-8-6 | 1 | 12 |
| Magnolia: | | | |
| Davis, B. F. | 13-8-6 | 3 | Off |
| Davis, M. | 13-8-6 | 1 | 69 |
| Hammond | 10-8-6 | 8 | 396 |
| Rhodes | 12-8-6 | 5 | 256 |
| Vanburskirk | 9-8-6 | 4 | 179 |
| McCulloch: | | | |
| Bowlegs | 22-8-6 | 1 | 12 |
| Mid-Continent: | | | |
| Baker | 10-8-6 | 4 | 102 |
| Smith | 12-8-6 | 6 | 414 |
| Minnehoma: | | | |
| Bowlegs | 13-8-6 | 1 | 11 |
| Prairie: | | | |
| Gahagan | 23-8-6 | 3 | 56 |
| Harber | 10-8-6 | 8 | 970 |
| Jones, G. | 11-8-6 | 3 | 179 |
| Jones, N. | 3-8-6 | 1 | 135 |
| Templeton | 12-8-6 | 4 | 1,371 |
| Whitney | 23-8-6 | 4 | 210 |
| Pure: | | | |
| Reed | 14-8-6 | 14 | 1,513 |
| Strothers "D" | 14-8-6 | 4 | 254 |
| Strothers "E" | 10-8-6 | 7 | 1,188 |
| Shaffer: | | | |
| Lacey | 14-8-6 | 3 | 277 |
| Shell-Houston: | | | |
| Taylor | 16-8-6 | 4 | Off |
| Sinclair: | | | |
| Cumsey | 10-8-6 | 4 | 510 |
| Ellen | 11-8-6 | 5 | 485 |
| Harjo, E. | 14-8-6 | 3 | 310 |
| Jones | 9-8-6 | 7 | 145 |
| Taylor, M. | 10-8-6 | 4 | 616 |
| Taylor, W. | 10-8-6 | 3 | 392 |
| Walker, I. | 22-8-6 | 4 | 705 |
| Texas: | | | |
| Reed | 14-8-6 | 11 | 470 |
| Tidal: | | | |
| Grayson | 13-8-6 | 4 | 226 |
| Harjoche | 10-8-6 | 6 | 391 |
| Total | | 293 | 21,046 |

**Earlsboro Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Anderson | 15- 9-5 | 1 | 163 |
| Cowden | 4- 9-5 | 7 | 606 |
| Rogers | 3- 9-5 | 2 | 26 |
| Barnsdall: | | | |
| Brown | 10- 9-5 | 3 | 571 |
| Bruner, F. | 2- 9-5 | 2 | 119 |
| Bruner, N. | 10- 9-5 | 2 | 146 |
| Cudjo | 14- 9-5 | 1 | 22 |
| Davis, D. | 11- 9-5 | 3 | 45 |
| Davis, J. | 11- 9-5 | 4 | 493 |
| Davis, M. | 11- 9-5 | 2 | 11 |
| Gibson | 9- 9-5 | 7 | 417 |
| Hearn | 15- 9-5 | 1 | Off |
| Ingram, J. | 1- 9-5 | 6 | 128 |
| Pack, S. | 10- 9-5 | 3 | 28 |
| Peter | 10- 9-5 | 3 | 8 |
| Sango | 1- 9-5 | 2 | 397 |
| Sobolka | 15- 9-5 | 1 | 67 |
| Sullivan | 15- 9-5 | 1 | 6 |
| Sull-Harjo | 10- 9-5 | 2 | 8 |
| Watsutka | 12- 9-5 | 3 | 217 |
| Burke-Greis: | | | |
| Wisener | 6- 9-6 | 2 | 150 |
| Burke-Greis Red Bank: | | | |
| Mayes | 1- 9-5 | 3 | 1,100 |
| Carter: | | | |
| Cox | 31-10-6 | 1 | 77 |
| Davis, S. | 12- 9-5 | 3 | 46 |
| Gilliam | 13- 9-5 | 2 | 797 |
| James | 6- 9-6 | 3 | 1,070 |
| Shepherd | 6- 9-6 | 2 | 233 |
| Continental: | | | |
| Keys | 2- 9-5 | 2 | 31 |
| Spencer | 12- 9-5 | 4 | 390 |
| Cosden: | | | |
| Anderson | 13- 9-5 | 2 | 350 |
| Sarber | 13- 9-5 | 1 | 30 |
| Empire: | | | |
| Barker | 12- 9-5 | 1 | 22 |
| Edmundson | 3- 9-5 | 2 | 25 |
| Empire-Amerada: | | | |
| Bullock, W. | 8- 9-5 | 3 | 762 |
| Henry | 8- 9-5 | 1 | 919 |
| Empire-Continental: | | | |
| Anderson | 13- 9-5 | 2 | 40 |
| Empire-Gypsy: | | | |
| Keys | 6- 9-5 | 1 | 20 |
| Gypsy: | | | |
| Bruner | 10- 9-5 | 4 | 59 |
| Carter, B. | 11- 9-5 | 7 | 642 |
| Earl | 16- 9-5 | 1 | 11 |
| Hunick | 5- 9-5 | 2 | 618 |
| Noble | 12- 9-5 | 3 | 308 |
| Peter | 10- 9-5 | 1 | 65 |
| Sango | 1- 9-5 | 11 | 1,038 |
| State | 16- 9-5 | 2 | 69 |
| Wisener | 1- 9-5 | 1 | 25 |
| Eason Oil Co.: | | | |
| B. S. & B. | 8- 9-5 | 1 | 352 |
| White | 8- 9-5 | 1 | 588 |
| Eason Oil Co.-C. E. Knox: | | | |
| Langford | 8- 9-5 | 1 | 1,471 |
| E. Haer: | | | |
| Haer | 31-10-5 | 1 | 20 |
| Hubbell-Graham: | | | |
| Dobbs | 8- 9-5 | 1 | 80 |
| Independent: | | | |
| Bruner | 10- 9-5 | 3 | 76 |
| Sullivan | 10- 9-5 | 1 | 10 |
| Independent-Darby: | | | |
| Knapp | 8- 9-5 | 2 | 229 |
| Independent-Margay: | | | |
| Gaines | 11- 9-5 | 3 | 58 |
| Magnolia: | | | |
| Bryant | 9- 9-5 | 2 | 19 |
| Cowden | 4- 9-5 | 1 | 20 |
| Dixon | 12- 9-5 | 1 | 11 |
| Edmundson | 3- 9-5 | 1 | 2 |
| Germany, M. | 30- 9-5 | 1 | 6 |
| Gillian | 13- 9-5 | 3 | 1,122 |
| Grounds | 23- 9-5 | 1 | 90 |
| Homsley | 11- 9-5 | 3 | 7 |
| Hyde | 13- 9-5 | 2 | 56 |
| Ingram | 10- 9-5 | 1 | 4 |
| Lena | 10- 9-5 | 3 | 30 |
| Seay | 12- 9-5 | 9 | 105 |
| Simpson | 10- 9-5 | 4 | 170 |
| Sparks | 11- 9-5 | 6 | 70 |
| Sullivan | 12- 9-5 | 2 | 117 |
| Mid-Continent: | | | |
| McKinley | 8- 9-5 | 3 | 17 |
| Rogers | 5- 9-5 | 5 | 660 |
| Mid-Kansas: | | | |
| Anderson | 14- 9-5 | 1 | 25 |
| Phillips: | | | |
| Dunaway | 14- 9-5 | 1 | 19 |
| Reade | 8- 9-5 | 2 | 632 |
| Prairie: | | | |
| Davis | 13- 9-5 | 3 | 161 |
| Graham, C. | 3- 9-5 | 1 | 3 |
| Graham, O. | 10- 9-5 | 4 | 503 |
| Stidham | 11- 9-5 | 9 | 153 |
| Prairie-Skelly: | | | |
| Campbell | 6- 9-6 | 7 | 1,811 |
| Prairie-Whitney: | | | |
| Harjo | 24- 9-5 | 1 | Off |
| Shaffer: | | | |
| Clark | 1- 9-5 | 2 | 130 |
| Shell: | | | |
| Bayless | 17- 9-5 | 1 | 14 |
| Hearn | 13- 9-5 | 1 | 10 |
| Spencer | 12- 9-5 | 2 | 342 |
| Sinclair: | | | |
| Alexander | 36-10-5 | 1 | 748 |
| Foreman | 18- 9-5 | 1 | 12 |
| Sango | 2- 9-5 | 4 | 256 |
| Sinclair et al: | | | |
| Foreman | 18- 9-5 | 1 | 100 |
| Skelly: | | | |
| Mayes | 1- 9-5 | 4 | 233 |
| Sheppard | 6- 9-6 | 4 | 1,382 |
| Spencer | 12- 9-5 | 1 | 321 |
| Skelly-Atlantic: | | | |
| Cherry | 6- 9-6 | 4 | 235 |
| Lottie | 6- 9-6 | 3 | 131 |
| Skelly-Prairie: | | | |
| Varnum | 5- 9-6 | 2 | 266 |
| Superior: | | | |
| Ingram | 1- 9-5 | 2 | 668 |
| Songster | 8- 9-5 | 2 | 701 |
| Walker | 2- 9-5 | 2 | 789 |
| Superior-Shaffer: | | | |
| McKay | 36-10-5 | 1 | 198 |
| Texas: | | | |
| Anderson | 2- 9-5 | 8 | 79 |
| Brown | 10- 9-5 | 8 | 59 |
| James | 6- 9-6 | 2 | 65 |
| Rogers | 5- 9-5 | 5 | 21 |
| Wilmot | 10- 9-5 | 6 | 70 |
| Tidal: | | | |
| Walker | 35-10-5 | 2 | 818 |
| Watkins | 9- 9-5 | 7 | 1,020 |
| Twin State: | | | |
| Anderson | 22- 9-5 | 1 | 3 |
| Barker | 12- 9-5 | 2 | 16 |
| Hearn | 2- 9-5 | 2 | 45 |
| Magruder | 7- 9-5 | 1 | 166 |
| Total | | 296 | 29,980 |

**East Earlsboro Pool**

| | | | |
|---|---|---|---|
| Amerada-Dixie: | | | |
| Fullerton | 19-9-6 | 3 | 3,376 |
| Scott | 19-9-6 | 1 | 711 |
| Sullivan | 17-9-6 | 4 | 1,476 |
| Barnsdall: | | | |
| Gilliam | 13-9-5 | 1 | 26 |
| Noble | 18-9-6 | 5 | 755 |
| Burke-Greis-Red Bank: | | | |
| Fixico | 17-9-6 | 3 | 1,279 |
| Carter: | | | |
| Campbell | 20-9-6 | 1 | 17 |
| Chowning | 19-9-6 | 1 | Off |
| Harber | 7-9-6 | 3 | 99 |
| Wrightsman | 19-9-6 | 4 | 1,343 |
| Continental: | | | |
| McGuire | 24-9-5 | 1 | 825 |
| Gypsy: | | | |
| Maley | 20-9-6 | 4 | 239 |
| Noble, B. | 18-9-6 | 4 | 763 |
| Gypsy-Devonian: | | | |
| Payne | 18-9-6 | 12 | 2,033 |
| Independent-Atlantic: | | | |
| Fixico, L. | 20-9-6 | 3 | 1,884 |
| Magnolia: | | | |
| Anderson, A. | 18-9-6 | 12 | 1,976 |
| Anderson, D. W. | 18-9-6 | 4 | 1,023 |
| Anderson, Panos | 18-9-6 | 3 | 78 |
| Moore | 24-9-5 | 3 | 886 |
| Mid-Continent: | | | |
| McDaniels | 7-9-6 | 1 | 50 |
| Minnehoma: | | | |
| Noe | 17-9-6 | 5 | 1,749 |
| McMan: | | | |
| Jones | 20-9-6 | 1 | 155 |
| Prairie: | | | |
| Baker | 24-9-5 | 5 | 92 |
| Calkins | 17-9-6 | 3 | 865 |
| Raitman | 18-9-6 | 3 | 546 |
| Wisner | 18-9-6 | 1 | Off |
| Prairie-Slick: | | | |
| Wilson | 8-9-6 | 1 | Off |
| Producers & Refiners: | | | |
| Jefferson | 19-9-6 | 3 | 1,856 |
| Shell: | | | |
| Hopper | 19-9-6 | 8 | 6,537 |
| Sinclair: | | | |
| Miller | 24-9-5 | 1 | Off |
| Nichols | 19-9-6 | 8 | 2,033 |
| Texas: | | | |
| Magruder | 19-9-6 | 6 | 2,380 |
| Tidal: | | | |
| Lasley | 19-9-6 | 2 | 3,669 |
| Tidal et al: | | | |
| Harjo | 20-9-6 | 1 | 131 |
| Total | | 121 | 38,842 |

**Seminole Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Fixico | 23-9-6 | 2 | 35 |
| Killings | 25-9-6 | 4 | 176 |
| Rentie | 23-9-6 | 3 | 263 |
| Atlantic: | | | |
| Cudjo | 35-9-6 | 3 | 260 |
| Barnsdall: | | | |
| Carter | 24-9-6 | 6 | 113 |
| Henry | 14-9-6 | 2 | 256 |
| Jones | 34-9-6 | 4 | 248 |
| Carter: | | | |
| Carter, B. | 24-9-6 | 2 | 66 |
| Carter, F. | 23-9-6 | 3 | 85 |
| Creamer | 34-9-6 | 1 | 5 |
| Cudjo, R. | 35-9-6 | 4 | 87 |
| Cudjo, W. | 34-9-6 | 1 | 55 |
| Gilliland | 27-9-6 | 1 | 104 |
| Grisso | 23-9-6 | 4 | 66 |
| Grisso, M. | 15-9-6 | 1 | 209 |
| Killing, G. F. | 14-9-6 | 4 | 35 |
| Killing, M. E. | 23-9-6 | 12 | 2,940 |
| Knapp | 13-9-6 | 1 | 30 |
| Lukes | 27-9-6 | 5 | 735 |
| Pounder | 34-9-6 | 2 | 119 |
| Simpson | 35-9-6 | 2 | 94 |
| Strothers | 34-9-6 | 4 | 318 |
| Vierson | 23-9-6 | 1 | 26 |
| Carter et al: | | | |
| Sanford, C. | 16-9-6 | 1 | 155 |
| Wisner, C. | 16-9-6 | 1 | 65 |
| Darby: | | | |
| Carter, J. | 24-9-6 | 4 | 86 |
| Fixico | 26-9-6 | 7 | 1,110 |
| Harjo, D. | 25-9-6 | 1 | 32 |
| Harjo, T. | 23-9-6 | 3 | 34 |
| Empire: | | | |
| Gross | 25-9-6 | 1 | 18 |
| Wilson | 34-9-6 | 2 | 150 |
| Gypsy: | | | |
| Butler | 35-9-6 | 4 | 154 |
| Carter | 24-9-6 | 8 | 582 |
| Cudjo, T. | 34-9-6 | 4 | 100 |
| Fixico | 26-9-6 | 7 | 75 |
| Harjo | 25-9-6 | 3 | 33 |
| Wolfe | 26-9-6 | 4 | 332 |
| Independent: | | | |
| Butler | 35-9-6 | 3 | 288 |
| Fixico, P | 23-9-6 | 3 | 475 |
| Harjo | 25-9-6 | 2 | 11 |
| Independent-Garland: | | | |
| Fixico, T. | 26-9-6 | 5 | 159 |
| Independent-Inter-Ocean: | | | |
| Jones | 26-9-6 | 4 | 232 |
| I. T. I. O.: | | | |
| Allen | 25-9-6 | 2 | 15 |
| Bowlegs | 26-9-6 | 12 | 1,428 |
| Goodin | 23-9-6 | 3 | 125 |
| Harjo | 23-9-6 | 3 | 25 |
| James | 24-9-6 | 2 | 25 |
| Reed | 24-9-6 | 1 | 6 |
| Kingwood-Shell: | | | |
| Harjo | 22-9-6 | 3 | 299 |
| Magnolia: | | | |
| Boren | 2-8-6 | 1 | 2 |
| Franks | 25-9-6 | 3 | 168 |
| Mid-Continent: | | | |
| Rentie | 14-9-6 | 9 | 336 |
| Tayeche | 24-9-6 | 5 | 110 |
| Phillips: | | | |
| Strothers | 27-9-6 | 2 | 59 |
| Prairie: | | | |
| Cudjo, R. | 35-9-6 | 3 | 259 |
| Franks | 35-9-6 | 6 | 746 |
| Giblet | 35-9-6 | 3 | 862 |
| Gross | 25-9-6 | 5 | 20 |
| Mason | 36-9-6 | 1 | 31 |
| Spencer | 13-9-6 | 1 | 6 |
| Strothers | 27-9-6 | 8 | 883 |
| Tiger | 1-8-6 | 1 | 27 |
| Pure: | | | |
| Strothers | 26-9-6 | 17 | 3,103 |
| Strothers "B" | 36-9-6 | 4 | 97 |
| Strothers "C" | 34-9-6 | 1 | 250 |
| Shell: | | | |
| Harber | 22-9-6 | 1 | 47 |
| Lasley | 22-9-6 | 2 | 8 |
| Sinclair: | | | |
| Carter, J. | 13-9-6 | 2 | 15 |
| Cudjo "A" | 35-9-6 | 6 | 460 |
| Cudjo "B" | 35-9-6 | 4 | 483 |
| Dixey | 22-9-6 | 2 | 325 |
| Fixico | 23-9-6 | 4 | 177 |
| Superior: | | | |
| Cudjo, B. | 35-9-6 | 4 | 69 |
| Noble | 15-9-6 | 1 | 2 |
| Texas: | | | |
| Mayhue | 14-9-6 | 2 | 415 |
| Strothers | 2-8-6 | 1 | 35 |
| Turman: | | | |
| Cudjo | 35-9-6 | 4 | 435 |
| Grisso | 35-9-6 | 1 | 182 |
| Jones | 34-9-6 | 4 | 215 |
| Total | | 273 | 22,157 |

**East Seminole Pool**

| | | | |
|---|---|---|---|
| Barnsdall: | | | |
| Keypaya | 7-9-7 | 1 | 10 |
| Blackwell: | | | |
| Jonah | 15-9-7 | 1 | 120 |
| Continental: | | | |
| Boring | 17-9-7 | 1 | 40 |
| Johnson | 18-9-7 | 3 | 81 |
| Continental Sinclair: | | | |
| Perry | 18-9-7 | 3 | 559 |
| Devonian: | | | |
| Harjo | 18-9-7 | 1 | 6 |
| Gypsy: | | | |
| Harjo | 18-9-7 | 2 | 277 |
| Magnolia: | | | |
| Drewery | 18-9-7 | 2 | 40 |
| Prairie: | | | |
| Stubbs | 18-9-7 | 3 | 353 |
| Shaffer: | | | |
| Hagler | 19-9-7 | 1 | 5 |
| Sinclair: | | | |
| Coody, B. | 18-9-7 | 3 | 445 |
| Coody, D. | 17-9-7 | 1 | 30 |
| Johnson, G. | 18-9-7 | 1 | 118 |
| Johnson "B" | 18-9-7 | 1 | 64 |
| Thompson "B" | 18-9-7 | 2 | 1,297 |
| Sinclair-Continental: | | | |
| Warrior, J. | 17-9-7 | 2 | 35 |
| Sinclair-Gypsy: | | | |
| Okfuskee | 18-9-7 | 1 | 127 |
| Sinclair-Phillips: | | | |
| Warrior, S. | 17-9-7 | 2 | 87 |
| Total | | 21 | 3,685 |

**Searight Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Johnson | 4- 9-6 | 1 | 16 |
| Nicey | 3- 9-6 | 1 | Off |
| Strothers | 3- 9-6 | 2 | 77 |
| Barnsdall: | | | |
| Jackson | 5- 9-6 | 2 | 11 |
| Johnson | 22-10-6 | 1 | Off |
| Burke-Greis et al: | | | |
| Nevins | 32-10-6 | 2 | 775 |
| Varnum | 32-10-6 | 1 | 229 |
| Carter: | | | |
| Davis | 4- 9-6 | 2 | 117 |
| Frazier | 3- 9-6 | 5 | 43 |
| Kiker | 2- 9-6 | 1 | 21 |
| Mandler | 3- 9-6 | 2 | 7 |
| Scott | 26-10-6 | 1 | 10 |
| Amerada (Comm.) | 11- 9-6 | 1 | 11 |
| I. T. I. O. (Comm.) | 11- 9-6 | 1 | 210 |
| Mayhue (Comm.) | 11- 9-6 | 3 | 943 |
| McMan (Comm.) | 11- 9-6 | 1 | 157 |
| Skiff (Comm.) | 10- 9-6 | 1 | 29 |
| Slick (Comm.) | 11- 9-6 | 2 | 341 |
| Stewart (Comm.) | 10- 9-6 | 1 | 156 |
| Strothers (Comm.) | 11- 9-6 | 3 | 733 |
| Gypsy: | | | |
| Cudjo | 4- 9-6 | 3 | 182 |
| Nevins | 32-10-6 | 2 | 167 |
| Saloche | 31-10-6 | 1 | 51 |
| Magnolia: | | | |
| Varnum | 32-10-6 | 3 | 31 |

| Company, farm— | S.T.R. | Wells | Prod. |
|---|---|---|---|
| Varnum, W. F. | 5- 9-6 | 1 | 329 |
| Mid-Continent: | | | |
| Grayson | 34-10-6 | 4 | 22 |
| Saloche | 33-10-6 | 5 | 287 |
| Mid-Continent-Homaokla: | | | |
| Nevins | 32-10-6 | 4 | 464 |
| Papoose: | | | |
| Marks | 32-10-6 | 1 | 160 |
| Pine, W. B.: | | | |
| Lulu | 4- 9-6 | 1 | 15 |
| Prairie: | | | |
| Cannon | 33-10-6 | 1 | 1 |
| Carter, J. | 10- 9-6 | 1 | 1 |
| Hauck | 33-10-6 | 1 | 1 |
| Hurford | 32-10-6 | 1 | 16 |
| Kinkaid | 33-10-6 | 2 | 50 |
| Weimer | 22-10-6 | 1 | 20 |
| Pure: | | | |
| Aldridge | 3- 9-6 | 3 | 585 |
| Shell: | | | |
| Crump | 32-10-6 | 1 | Off |
| Strothers | 3- 9-6 | 3 | 56 |
| Sinclair: | | | |
| Polly | 3- 9-6 | 4 | 847 |
| Superior: | | | |
| Varnum | 4- 9-6 | 1 | 12 |
| Texas: | | | |
| Fleet | 4- 9-6 | 1 | 15 |
| Twin State: | | | |
| Varnum | 4- 9-6 | 2 | 86 |
| Wilcox: | | | |
| Chupco | 4- 9-6 | 6 | 179 |
| Total | | 87 | 7,394 |

## PRODUCTION OF ST. LOUIS POOL

**Average daily production of the St. Louis Pool for the week ending February 3:**

| Company, farm— | S.T.R. | Wells | Prod. |
|---|---|---|---|
| Amerada: | | | |
| Richardson | 16-7-4 | 2 | 63 |
| Atlantic et al: | | | |
| Bass | 9-7-4 | 1 | 112 |
| Bourassa | 10-7-4 | 1 | 75 |
| Burke | 16-7-4 | 3 | 365 |
| Milburn | 15-7-4 | 1 | 75 |
| McGee | 4-7-4 | 1 | 525 |
| Barnsdall: | | | |
| Stahl | 30-7-5 | 3 | 237 |
| Blackwell: | | | |
| Cherry | 25-7-4 | 3 | 360 |
| Lewis | 24-7-4 | 2 | 110 |
| British-American: | | | |
| Coley | 24-7-4 | 2 | 210 |
| McGee | 23-7-4 | 5 | 110 |
| Carter: | | | |
| McGee | 26-7-4 | 1 | 10 |
| Darby: | | | |
| Bettis | 21-7-4 | 1 | 105 |
| Harber | 23-7-4 | 1 | 21 |
| Nixon | 9-7-4 | 2 | 165 |
| Youngblood | 16-7-4 | 4 | 233 |
| Darby-Atlantic: | | | |
| Cardwell | 15-7-4 | 1 | 215 |
| Empire: | | | |
| Bettis | 17-7-4 | 1 | 77 |
| Jackson | 36-8-4 | 1 | 160 |
| State | 36-7-4 | 1 | 140 |
| Gypsy: | | | |
| Bruno | 25-7-4 | 3 | 49 |
| Collins | 25-7-4 | 4 | 425 |
| Dodson | 26-7-4 | 4 | 26 |
| Green | 17-7-4 | 6 | 2,916 |
| Johnson | 29-7-5 | 1 | 1 |
| LeClair | 23-7-4 | 4 | 975 |
| Rosemond | 26-7-4 | 4 | 315 |
| Stahl | 30-7-5 | 5 | 51 |
| Gypsy et al: | | | |
| Johnson, W. | 7-7-4 | 1 | 69 |
| Healdton: | | | |
| Hines | 17-7-4 | 1 | 25 |
| Home Gas Co.: | | | |
| St. Louis | 14-7-4 | 1 | 245 |
| Houston Oil: | | | |
| Wyatt | 17-7-4 | 5 | 692 |
| Independent: | | | |
| Barrow | 1-7-4 | 3 | 388 |
| Blandin | 30-7-5 | 5 | 819 |
| Youts | 19-7-5 | 8 | 1,261 |
| Independent-Darby: | | | |
| Brown | 14-7-4 | 2 | 10 |
| Davis | 15-7-4 | 2 | 39 |
| Freid | 23-7-4 | 2 | 73 |
| Jordon | 10-7-4 | 1 | 21 |
| LeClair | 23-7-4 | 1 | 59 |
| Pappan | 16-7-4 | 3 | 318 |
| Pillar | 15-7-4 | 1 | 5 |
| Standridge | 14-7-4 | 3 | 28 |
| Wallace | 14-7-4 | 4 | 66 |
| Independent et al: | | | |
| Hamby | 14-7-4 | 2 | 8 |
| Was | 30-7-5 | 1 | 22 |
| Independent-Mid-Kansas: | | | |
| Asher | 3-7-4 | 1 | Off |
| Weldfelt | 2-7-4 | 2 | 635 |
| Independent-Range: | | | |
| Null | 35-8-4 | 2 | 183 |
| Independent-Skelly: | | | |
| James | 17-7-4 | 2 | 135 |
| Independent-Westland: | | | |
| Booze | 9-7-4 | 1 | 32 |
| Rhodd | 16-7-4 | 3 | 344 |
| I. T. I. O.: | | | |
| Brandenburg | 35-8-4 | 2 | 1,152 |
| McGee | 26-7-4 | 1 | 86 |
| Shobe | 35-8-4 | 4 | 205 |
| Weams | 21-7-5 | 1 | 63 |
| Weldfelt | 2-7-4 | 3 | 305 |
| I. T. I. O.-Sinclair: | | | |
| Woodard | 18-7-5 | 1 | 28 |
| Keister-Manning: | | | |
| Kelly | 2-7-4 | 3 | 395 |
| Magnolia: | | | |
| Anderson | 1-7-4 | 1 | Off |
| Banta | 14-7-4 | 3 | 201 |
| Billington, C. | 11-7-4 | 1 | 6 |
| Billington, E. | 22-7-4 | 1 | 280 |
| Brandenburg | 18-7-5 | 5 | 1,081 |
| Bullock | 18-7-5 | 1 | 1 |
| Caudle | 13-7-4 | 2 | 56 |
| Cherry "A" | 26-7-4 | 5 | 196 |
| Cherry "B" | 26-7-4 | 3 | 14 |
| Cherry, J. H. | 13-7-4 | 1 | 12 |
| Clour | 11-7-4 | 2 | 23 |
| Davis, C. E. | 24-7-4 | 1 | 9 |
| Davis, Frank | 15-7-4 | 2 | 9 |
| Engle | 34-7-4 | 1 | 42 |
| Fyke, George "A" | 20-7-5 | 1 | 92 |
| Fyke, George "B" | 20-7-5 | 2 | 203 |
| Fyke, L. L. | 20-7-5 | 1 | 3 |
| Fyke, Tulle "A" | 20-7-5 | 1 | 65 |
| Fyke, Tulle "B" | 20-7-5 | 2 | 99 |
| Fyke, Tulle "C" | 20-7-5 | 1 | 12 |
| Fyke, Tulle "D" | 20-7-5 | 2 | 199 |
| Fyke, Tulle "E" | 28-7-5 | 1 | 10 |
| Green, B. M. | 13-7-4 | 1 | 6 |
| Green, Lulla | 13-7-4 | 1 | 71 |
| Quinn | 20-7-5 | 1 | 3 |
| Harden | 12-7-4 | 2 | 139 |
| Hatcock, C. D. | 11-7-4 | 1 | 9 |
| Hatcock, Lee | 11-7-4 | 1 | 68 |
| Harper, J. J. | 19-7-5 | 1 | 11 |
| Harper, James | 19-7-5 | 2 | 5 |
| Hembree | 19-7-5 | 4 | 49 |
| Hilton, J. E. | 22-7-4 | 2 | 1,192 |
| Jones "A" | 18-7-4 | 1 | 66 |
| Jones, M. | 8-7-4 | 1 | 10 |
| Jordan | 12-7-4 | 1 | 88 |
| Kiner | 17-7-5 | 1 | 3 |
| Latimer | 17-7-4 | 2 | 104 |
| Louis, J. L. | 15-7-4 | 1 | 4 |
| Lynn, D. | 21-7-4 | 1 | 529 |
| Lynn, F. | 21-7-4 | 2 | 149 |
| Mull | 15-7-4 | 2 | 1 |
| Nicklass | 31-7-5 | 2 | 20 |
| Nona | 11-7-4 | 1 | 39 |
| Ogle | 22-7-4 | 1 | 34 |
| Richardson | 15-7-4 | 2 | 274 |
| Risenhoover | 14-7-4 | 4 | 12 |
| Robbins, J. M. | 15-7-4 | 4 | 150 |
| Robbins, Pearl | 15-7-4 | 1 | 32 |
| Rowe, I. | 18-7-5 | 1 | 18 |
| Rowe, M. | 18-7-5 | 1 | 4 |
| Shipshewano | 19-7-5 | 4 | 44 |
| Singletary, D. | 13-7-4 | 1 | 3 |
| Singletary, F. | 23-7-4 | 3 | 9 |
| Singletary, T. | 14-7-4 | 3 | 21 |
| Tartar | 15-7-4 | 2 | 641 |
| Vieux, F. | 13-7-4 | 1 | 16 |
| Vieux, N. | 13-7-4 | 1 | 1 |
| White, Roy | 20-7-5 | 1 | 12 |
| Wilborn, Mary | 24-7-4 | 2 | 280 |
| Wilborn, S. A. | 24-7-4 | 6 | 354 |
| Willamette | 11-7-4 | 1 | 23 |
| Youts, Charles | 20-7-5 | 5 | Off |
| Youts, C. A. | 19-7-5 | 4 | 321 |
| Youts, H. E. | 20-7-5 | 7 | 291 |
| Magnolia-Pierce: | | | |
| Hubanks | 17-7-4 | 2 | 529 |
| McCulloch et al: | | | |
| Bruno | 25-7-4 | 5 | 701 |
| Smith | 25-7-4 | 6 | 706 |
| Mid-Continent: | | | |
| Decker | 8-7-4 | 1 | 40 |
| Robbins | 9-7-4 | 2 | 16 |
| Quinn | 20-7-5 | 1 | 18 |
| Mid-Kansas: | | | |
| Getzelman | 25-7-4 | 4 | 495 |
| Lunay | 30-7-5 | 3 | 200 |
| Minnehoma: | | | |
| Simms | 16-7-4 | 3 | 175 |
| Packard: | | | |
| Church | 29-7-5 | 1 | 315 |
| Panther: | | | |
| Town Lot | 14-7-4 | 1 | 22 |
| Town Lot | 23-7-4 | 1 | Off |
| Phillips: | | | |
| Cherry | 23-7-4 | 2 | 81 |
| Grace | 2-7-4 | 1 | 40 |
| Lydick | 24-7-4 | 1 | 15 |
| Stahl | 30-7-5 | 1 | 206 |
| Prairie: | | | |
| Bodkins | 26-8-4 | 1 | 30 |
| Desmond | 25-7-4 | 4 | 46 |
| Ellison | 25-7-4 | 4 | 52 |
| Gammon | 30-7-5 | 8 | 2,620 |
| Hembree, A. O. | 19-7-5 | 4 | 571 |
| Hembree | 18-7-5 | 1 | 11 |
| Linn | 30-7-5 | 4 | 325 |
| Meyer | 32-7-4 | 1 | 23 |
| Smith | 30-7-5 | 3 | 19 |
| Wolf | 29-7-5 | 4 | 335 |
| Youts | 19-7-5 | 4 | 152 |
| Prairie et al: | | | |
| Davis | 18-7-5 | 4 | 49 |
| Nesbit | 18-7-5 | 2 | 154 |
| Pugh | 7-7-5 | 1 | 16 |
| Prairie-Shaffer-Independent: | | | |
| Cummings | 17-7-4 | 2 | 9 |
| Reagan | 17-7-4 | 3 | 52 |
| Rice | 17-7-4 | 2 | 101 |
| Pure: | | | |
| Brandenburg | 21-7-4 | 1 | 245 |
| Dodson | 26-7-4 | 2 | 106 |
| Pure et al: | | | |
| Latimer | 21-7-4 | 1 | 187 |
| Thomas | 26-7-4 | 4 | 389 |
| Thrilkill | 19-7-5 | 1 | 47 |
| Tolen | 1-7-4 | 1 | 66 |
| Shaffer O. & R.: | | | |
| Cherry | 25-7-4 | 4 | 160 |
| Tolen | 30-7-5 | 4 | 308 |
| Shell: | | | |
| Hines | 22-7-4 | 1 | 77 |
| Smith | 21-7-5 | 1 | 48 |
| Stahl | 30-7-5 | 1 | 31 |
| Younts | 28-7-5 | 1 | 38 |
| Sinclair: | | | |
| Blandin | 24-7-4 | 12 | 1,105 |
| Brandenburg | 7-7-5 | 3 | 425 |
| Bruno | 26-7-4 | 2 | 75 |
| Coley | 24-7-4 | 2 | 325 |
| Gilbreath | 25-7-4 | 2 | 580 |
| M-Qua-Ka | 11-7-4 | 1 | 56 |
| Nadash | 29-7-5 | 4 | 409 |
| Neeley | 25-7-4 | 4 | 380 |
| Neeley "B" | 25-7-4 | 2 | 662 |
| Nesbit | 18-7-5 | 8 | 1,230 |
| O-Kitchee | 19-7-5 | 7 | 425 |
| Sinclair et al: | | | |
| Kelly "A" | 2-7-4 | 2 | 140 |
| Skelly: | | | |
| Decker | 16-7-4 | 2 | 290 |
| Slick-White Eagle: | | | |
| Latimer | 16-7-4 | 3 | 327 |
| Superior: | | | |
| Caudle | 13-7-4 | 2 | 27 |
| Jackson | 36-8-4 | 1 | 35 |
| Texas: | | | |
| Cherry | 25-7-4 | 4 | 222 |
| Goodin | 25-8-4 | 1 | 45 |
| Zoeller | 30-7-5 | 1 | 28 |
| Warner-Quinlan: | | | |
| Light | 16-7-4 | 1 | 45 |
| Westheimer-Daube: | | | |
| Freid | 24-7-4 | 5 | 330 |
| Garrett | 23-7-4 | 2 | 51 |
| Westheimer-Daube-Gypsy: | | | |
| McGee | 23-7-4 | 5 | 61 |
| Wyatt: | | | |
| Fee | 10-7-4 | 1 | 19 |
| Smith | 26-7-4 | 1 | 35 |
| Total | | 454 | 41,297 |

**Asher Pool**

| | | | |
|---|---|---|---|
| Commercial Development Co.: | | | |
| Townsite | 18-6-4 | 1 | 10 |
| Independent: | | | |
| Gardiner | 19-6-4 | 1 | 123 |
| Obermeyer: | | | |
| Townsite | 19-6-4 | 1 | Off |
| Prairie-Slick: | | | |
| Carpenter | 19-6-4 | 1 | 501 |
| Laster | 19-6-4 | 8 | 477 |
| Simms: | | | |
| Laster | 19-6-4 | 5 | 826 |
| Slick: | | | |
| Alexander | 19-6-4 | 3 | 110 |
| Bledsoe | 20-6-4 | 1 | 15 |
| Weldon | 20-6-4 | 2 | 72 |
| Slick-Amerada: | | | |
| Walker | 19-6-4 | 2 | 70 |
| Texola: | | | |
| Townsite | 19-6-4 | 1 | Off |
| Total | | 26 | 2,204 |

**Konawa Pool**

| | | | |
|---|---|---|---|
| Champlin-Shell: | | | |
| Sachemeche | 9-6-6 | 1 | 376 |
| Empire: | | | |
| Sachemeche | 9-6-6 | 1 | 731 |
| E. L. Harris et al: | | | |
| Harjoche | 8-6-6 | 2 | 1,658 |
| Independent: | | | |
| Oyster | 8-6-6 | 1 | 346 |
| McCulloch et al: | | | |
| Cully | 16-6-6 | 1 | 86 |
| Total | | 6 | 3,197 |

**Sasakwa Pool**

| | | | |
|---|---|---|---|
| Blackwell: | | | |
| Vanbuskirk | 7-6-8 | 1 | 166 |
| Carter: | | | |
| Aldridge | 7-6-8 | 1 | 15 |
| Davis | 7-6-8 | 1 | Off |
| Fleet | 13-6-7 | 1 | Off |
| Phillips | 18-6-8 | 1 | 30 |
| Spillman | 7-6-8 | 2 | 556 |
| Gypsy: | | | |
| Phillips | 18-6-8 | 1 | 82 |
| I. T. I. O.: | | | |
| Fleet | 13-6-7 | 1 | 302 |
| Holatka | 7-6-8 | 2 | 256 |
| Magnolia: | | | |
| Diamond | 8-6-8 | 1 | Off |
| Spillman | 12-6-7 | 1 | 184 |
| Prairie: | | | |
| Diament | 12-6-7 | 1 | 36 |
| Patton | 18-6-8 | 2 | 76 |
| Pure: | | | |
| Bates | 13-6-7 | 7 | 5,068 |
| Shell: | | | |
| Holatka | 7-6-8 | 2 | 139 |
| Signal: | | | |
| Bond | 13-6-7 | 4 | 858 |
| Sinclair: | | | |
| Davis "A" | 17-6-8 | 7 | 2,489 |
| Davis "B" | 7-6-8 | 1 | Off |
| Tiger | 6-6-8 | 1 | 60 |
| Texas: | | | |
| Bruner | 9-6-8 | 1 | Off |
| Bryan | 9-6-8 | 1 | 30 |
| Twin State: | | | |
| Marshall | 7-6-8 | 1 | Off |
| Total | | 41 | 10,347 |

**Allen Pool**

| | | | |
|---|---|---|---|
| Barbara: | | | |
| Mount | 36-5-7 | 1 | 10 |
| Barnsdall: | | | |
| Lusty | 15-5-7 | 1 | 358 |
| Blackwell: | | | |
| Fleet | 13-5-7 | 3 | 969 |
| Burke-Greis: | | | |
| Nitchee | 18-5-8 | 5 | 812 |
| Dixie: | | | |
| Payton | 1-4-7 | 3 | 185 |
| Gilcrease: | | | |
| Punka | 17-5-8 | 2 | 525 |
| Reed | 18-5-8 | 2 | 186 |
| Reed, W. | 18-5-8 | 1 | 20 |
| Gypsy: | | | |
| Peter | 18-5-8 | 9 | 218 |
| Peter | 23-5-7 | 3 | 2,899 |
| Homaokla: | | | |
| Adams | 19-5-8 | 7 | 290 |
| McCall, M. | 17-5-8 | 11 | 399 |
| Milner et al | 17-5-8 | 4 | 38 |
| Milner, J. B. | 16-5-8 | 2 | 8 |
| Ritchie | 1-4-7 | 2 | 145 |
| Wheeler | 16-5-8 | 1 | 2 |
| I. T. I. O.: | | | |
| Bingham | 8-5-8 | 3 | 171 |
| Mathis | 13-5-8 | 2 | 258 |
| Osborn | 18-5-8 | 3 | 79 |
| Loual-Carter: | | | |
| Bates | 36-5-7 | 1 | 10 |
| Louisiana O. & R.: | | | |
| Harjo | 17-5-8 | 6 | 145 |
| McElroy | 17-5-8 | 5 | 162 |
| Perry | 20-5-8 | 13 | 1,044 |
| Pumluste | 8-5-8 | 4 | 312 |
| Reed | 18-5-8 | 4 | 470 |
| Reed "A" | 18-5-8 | 1 | 15 |
| Statler | 7-5-8 | 2 | 110 |
| Warfle | 20-5-8 | 3 | 192 |
| Magnolia: | | | |
| Reed | 17-5-8 | 6 | 642 |
| Reed "A" | 13-5-7 | 2 | 494 |
| Parney | 14-5-7 | 1 | 160 |
| Mid-Continent: | | | |
| Fleet | 7-5-8 | 15 | 1,842 |
| Harjo | 14-5-7 | 3 | 707 |
| Prairie: | | | |
| Harris | 8-5-8 | 1 | 10 |
| Simena | 11-5-7 | 1 | 15 |
| Wyecka | 24-5-7 | 1 | 20 |
| Ramsey: | | | |
| Butler | 17-5-8 | 1 | 5 |
| Butler, M. | 20-5-8 | 1 | 12 |
| Kerr | 1-4-7 | 1 | 17 |
| McElroy | 17-5-8 | 1 | 36 |
| Milner | 17-5-8 | 9 | 1,086 |
| Parker | 17-5-8 | 2 | 45 |
| Harjo | 20-5-8 | 2 | 15 |
| Smith | 8-5-8 | 1 | 10 |
| Warfle | 20-5-8 | 1 | 5 |
| Webb | 20-5-8 | 5 | 104 |
| Whitney | 19-5-8 | 5 | 612 |
| Shaffer, C. B.: | | | |
| Chapman | 36-5-7 | 1 | 20 |
| Yoakum | 16-5-8 | 6 | 285 |
| Sinclair: | | | |
| Amos "B" | 7-5-8 | 1 | 208 |
| Cully | 13-5-7 | 2 | 101 |
| Jefferson | 23-5-7 | 5 | 1,178 |
| Narcoche "A" | 18-5-8 | 1 | 9 |
| Narcoche "B" | 18-5-8 | 5 | 35 |
| Peter | 18-5-8 | 2 | 95 |
| Joanna | 24-5-7 | 2 | 178 |
| Sunray: | | | |
| Amos | 7-5-8 | 1 | 114 |
| Cully "A" | 18-5-8 | 8 | 566 |
| Cully "B" | 18-5-8 | 8 | 699 |
| Joanna | 24-5-7 | 1 | 14 |
| Nitchey | 18-5-8 | 4 | 398 |
| Nitchey, So. | 19-5-8 | 3 | 412 |
| Sarney | 19-5-8 | 2 | 61 |
| Texas: | | | |
| Hyde | 8-5-8 | 5 | 340 |
| Lewis | 13-5-7 | 1 | 471 |
| Lucy | 18-5-8 | 11 | 1,690 |
| Jefferson | 23-5-7 | 1 | 5 |
| Westheimer: | | | |
| Milliner | 8-5-8 | 3 | 99 |
| Westheimer et al: | | | |
| Wade | 19-5-8 | 9 | 572 |
| Westheimer-Daube: | | | |
| W. A. Patterson | 29-5-8 | 1 | 45 |
| Total | | 246 | 23,464 |

**Oklahoma City Pool**

| | | | |
|---|---|---|---|
| Coline: | | | |
| Clour | 25-11-3w | 1 | Off |
| Olds | 24-11-3 | 3 | 5,465 |
| Warren | 18-11-2 | 2 | Off |
| Cromwell-Franklin: | | | |
| Trosper Park | 13-11-3 | 1 | 339 |
| I. T. I. O.: | | | |
| Bodine-Anderson | 30-11-2 | 1 | 786 |
| Bodine, A. | 24-11-3 | 2 | 1,931 |
| Bodine, S. | 30-11-2 | 2 | Off |
| Button | 19-11-2 | 3 | 2,004 |
| Canfield, L. | 19-11-2 | 1 | Off |
| Canfield, Butt. | 19-11-2 | 1 | Off |
| Drake | 19-11-2 | 1 | 939 |
| Emmerson, N. | 30-11-2 | 2 | 351 |
| Farley | 19-11-2 | 1 | Off |
| Fortson-Farley | 24-11-3 | 2 | 12,844 |
| Foster | 24-11-3 | 1 | Off |
| Fuzzell | 19-11-2 | 1 | 2,089 |
| Fuzzell, Thomas | 13-11-3 | 1 | 1,786 |
| Henning, K. | 24-11-3 | 1 | Off |
| Jennings | 13-11-3 | 3 | Off |
| Johnson | 25-11-3 | 3 | 908 |
| Joyce, E. | 25-11-3 | 1 | Off |
| Mackey | 24-11-3 | 1 | Off |
| Oklahoma City | 24-11-3 | 1 | Off |
| Peterson, Sadie | 25-11-3 | 1 | 1,263 |
| Speegle et al | 24-11-3 | 1 | Off |
| Trosper | 13-11-3 | 4 | 786 |
| Verne | 13-11-3 | 2 | Off |
| Waters | 25-11-3 | 2 | 1,061 |
| Wheeler | 13-11-3 | 2 | Off |
| Williamson, Can. | 24-11-3 | 1 | Off |
| Wilkie-Anderson | 25-11-3 | 1 | 1,199 |
| Mid-Kansas: | | | |
| Browning | 18-11-2 | 1 | Off |
| Fortson | 24-11-3 | 5 | 4,451 |
| Mollman | 23-11-3 | 1 | Off |
| Trosper | 19-12-1 | 1 | 233 |
| Prairie-Slick: | | | |
| Hiddleston | 19-11-2 | 5 | 1,439 |
| Shaffer, J. C.: | | | |
| Childs | 14-11-3 | 1 | Off |
| Shell: | | | |
| Petty | 30-11-2 | 5 | 999 |
| Sinclair: | | | |
| S. Land No. 54 | 36-11-3 | 1 | Off |
| Stamper | 30-11-2 | 6 | 54 |
| Sinclair-Amerada: | | | |
| Kinter | 30-11-2 | 2 | 521 |
| Slick, T. B.: | | | |
| Glidden | 13-11-3 | 2 | 3,542 |
| Zerkerle | 13-11-3 | 1 | Off |
| Skelly: | | | |
| Hoops | 31-11-3 | 1 | Off |
| Wirt Franklin: | | | |
| Lowery | 12-11-3 | 1 | 3,702 |
| Trosper Park | 13-11-3 | 1 | Off |
| Total | | 85 | 48,692 |

## CANADIAN FIELDS

(Continued from Page 64)

drill equipment to finish the well, now standing 100 feet in the lime at 4,412 feet. East Crest's No. 2, LSD 4, same section, is reported being abandoned after unsuccessful attempts to overcome a crooked hole. The hole was 400 feet off center at 1,940 feet. It was originally drilled to 3,208 feet after getting the Dalhousie sand at 3,140 feet and was plugged back to about 1,800 feet. The derrick and rigging have been skidded 75 feet south, where No. 2-A will be drilled. Homestead Oils' No. 1, LSD 5, same section, is drilling above the lime at 4,150 feet with some additional small gas shows.

Commonwealth Petroleums' No. 2, LSD 7, Section 9-19-2w5, is reported on steady production from the Dalhousie sand, with a small recovery of light crude. Com-

monwealth's No. 3 will be drilled in the same section. Merland Oil Co.'s No. 1, Section 27-18-2w5, is reported making about 40 bbls. a day from the Dalhousie sand, and will be drilled to the lime horizon. Alberta Superior Oils' No. 1, LSD 5, Section 21-19-2w5, is preparing to resume drilling at 65 feet after the winter shutdown. Vanberta Oils' No. 2, LSD 5, Section 34-18-2w5, is reported spudded in.

Aerolite Oil Corp., Ltd., held its annual meeting at Calgary recently when R. P. Davis was named managing director and preparations were made for active development work in the spring. Aerolite's No. 1 was located some months ago in LSD 4, Section 3-19-2w5, and camp buildings have been erected and rigging up started.

**Central Turner Valley**

In the Central Turner Valley, McLeod Oil Co.'s No. 3, LSD 16, Section 1-20-3w5, is reported making from 60 to 70 bbls. a day on the separator after blowing back into deep lime production. Freeman-Lundy Syndicate's No. 1, LSD 10, same section, has moved back boilers and is rigging up tanks and separator preparatory to drilling into the lime where casing was cemented at 4,898 feet. Calmont Oils' No. 1, LSD 2, has pulled 5,200 feet of pipe and is cementing at 5,290 feet preparatory to resuming with the new rotary outfit.

Okalta Oils' No. 1 producer, LSD 1, Section 1-20-3w5, has been temporarily choked off and is rigging up diamond drill to clean out the hole and restore production. It has been making around 200 bbls. after a flush production a year ago of more than 400 bbls.

New McDougall-Segur Oil Co.'s No. 4, LSD 14, Section 12-20-3w5, is rigging up after building new derrick to resume at 3,292 feet.

Vulcan Oils' No. 1, LSD 11, Section 13-20-3w5, is drilling out bridge following a shot. Cleaning operations have partly restored wet gas production, originally around 140 bbls. a day.

**Tests in the Foothills**

The most important development among the foothills' tests is on the Highwood-Sinclair structure, where Western Alberta Oil Co.'s No. 1, LSD 11, Section 7-17-2w5, drilling on Nordon Corp. acreage, got the Madison limestone at 3,132 feet. Drilling continued to 3,178 feet, where 6¼-inch casing is being cemented preparatory to drilling to the producing horizon. The location is on the south end of the Highwood-Sinclair structure, and some 9 miles south of Imperial Oils' Highwood No. 1. The latter got the lime at 4,226 feet, and, after drilling a short distance into that formation, encountered a fault thrust, and was abandoned. Western Alberta's No. 1 got the lime approximately 1,100 feet higher, and considerably higher than it is usually encountered in the Turner Valley. Tests on the north end of the Highwood-Sinclair structure indicate the lime there is more deeply buried. The Highwood-Sinclair structure lies south of the Turner Valley Field, and Western Alberta's No. 1 is toward the eastern side of the structure.

On the Moose Mountain structure, northwest of Turner Valley, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, is officially reported shut down at 3,765 feet. At this depth the drill is in the Fernie shales, and drilling will resume as soon as the weather improves. Difficulty has been experienced with the water supply freezing. Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is also shut down temporarily owing to water shortage at around 3,045 feet.

On the High River-Aldersyde structure south of Calgary, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-29w4, is at 3,925 feet and drilling with further small oil and gas shows.

Further south in the foothills best, Raven Oils, Ltd., of Calgary, is preparing for active development on the Watson structure. Location for Raven's No. 1 was made last fall in Section 28-10-2w5 near Maycroft. E. W. Watson will have charge of the operations, and the structure has been geologized by L. Z. Johnson and L. G. Putnam. Adjacent acreage is held by A. E. McCroskey and associates of Los Angeles, the Source Rock Petroleum Co. and Southfield Petroleum Co. The McCroskey interests are reported planning a series of tests in Townships 7, 8, 9, 11 and 12, Range 2w5, and are reported preparing to move equipment from Lundbreck which will be the main shipping center for this area. The McCroskey Syndicate will drill first on the northern end of the structure, fuel being obtained from coal mines close to the drilling sites. Monte Cristo Oils, Ltd., headed by A. Owen Jennings of Calgary, is reported planning a test in the same area.

**Red Coulee Field**

In the Red Coulee Field west of Coutts, Cosmos Oil Co.'s Hannah Porter No. 1, Section 2-37-4w, on the Montana end of the structure, reported to have shown an initial production of 500 bbls. a day in the Sunburst sand failed to hold up. At 2,408 feet the well started to blow oil and gas, and on being deepened further oil production was met at 2,418 feet. After flowing a short time, water started to come in in increasing quantities with the oil, until it is claimed the production was 85 per cent water. It is said the well may be an edge well close to the oil and water contact. In Vanalta's No. 1 and Mid-Continent's No. 1 producers gas was encountered in the Sunburst, and crude oil production obtained from the Vanalta sand, about 70 feet lower. It is possible the Cosmos' No. 1 will be deepened to the Vanalta.

Mid-Continent Oil & Refining Co.'s No. 1, Section 2-37-4w, also on the Montana end of the structure but considerably nearer the Canadian boundary, set casing at 2,428 feet and drilled into the Vanalta sand at 2,481 feet, with flush production estimated at 200 bbls., and a probable settled production of 100 bbls. The Sunburst sand between 2,411 and 2,428 feet developed around 3,500,000 feet of gas. Mid-Continent's No. 1 is being put on steady production at this depth, and No. 2 is being started 250 feet southeast of Cosmos' No. 1.

Peninsular Petroleums, Ltd., which has a test already drilling in the Wainwright Field, has secured 80 acres on the Red Coulee structure and is preparing to drill. Altamont Oil Co. of Vancouver has closed a contract with Coast-to-Coast Oils, Ltd., for 80 acres in Section 28-1-16w4, and will drill this spring. Drilling operations are also to be started by Caledonia Oils, Ltd., of Calgary, which holds 40 acres about 1½ miles from the Vanalta discovery well. Location for No. 1 test will be made shortly by Geologist Russell V. Johnson.

Calbro Oil Co. of Calgary has been organized to drill on acreage on the Montana end of the Red Coulee structure. Officers are: President, Robert Wilkinson; secretary-treasurer, Campbell McLaurin; directors, John I, McFarland, H. A. Howard, Eric Harvie, Floyd J. Huff. Alberta Pacific Consolidated Oils, Ltd., of Calgary, which holds one-eighth royalty on the Vanalta production, will drill a test on Red Coulee acreage, to spud in about March 1.

Shareholders of Westmount Oils, Ltd., decided to undertake further drilling operations on the company's Montana acreage. Officers were elected as follows: President, Frank McLear; vice president, Thomas Hawkins; secretary-treasurer, R. Sladden; directors, George W. Hotson, William Hanson, John W. Smyth.

**Border Fields**

East of Coutts, further new drilling is expected this spring on the Flat Coulee structure, on the Canadian end of the Sweetgrass Hills. Monopeg Oil Co. of Winnipeg is planning to spud in a test early this spring on a 160-acre tract, and a Manitoba syndicate is reported arranging for a second test on the same structure.

In the Milk River area, Capitol Oil & Gas Co.'s No. 1-A, LSD 16, Section 32-1-12w4, is preparing to resume drilling at 3,002 feet.

In the Skiff Field, Dauntless Oils' No. 1, LSD 9, Section 36-6-15w4, was shot in the Sunburst sand with 60 quarts of nitro, but is waiting for repairs to the bailer to clean out and test production.

In the Taber district, Cole-English Syndicate's Taber No. 1, LSD 3, Section 11-10-17w4, is unofficially reported to have got shows of wet gas and light green crude, apparently at an horizon corresponding to the Ellis-Madison contact. The depth approximates 3,400 feet. It is generally understood that at around 3,300 feet a hard cap rock was encountered and below this some gas, claimed to be wet gas, and a little deeper the green crude was met. Tanks are being set up and 6-inch casing unloaded, to be cemented on top of the sand, and plans are reported under way for No. 2. The location is on the outskirts of the town of Taber, 37 miles east of Lethbridge, and north and west of the Skiff Field on one of the series of folds running north from the Sweetgrass arch. The original filing on this structure was done last year by English interests represented by F. E. Cole of Winnipeg and Campbell Hunter, formerly geologist for the Anglo-Persian Oil Co. The first filing covered 30,000 acres, and later the holdings were increased to 100,000 acres. Some land was secured from early settlers who secured oil rights with their homesteads, such acreage being tied up by 10-year leases carrying 5 per cent royalty with the stipulation that a well be drilled immediately. Campbell M. Hunter has had general charge of operations but is now in London, England. If the well actually holds up under production test, it will open an important new field in southern Alberta.

Alberta Pacific Consolidated Oils, Ltd., of Calgary, is preparing for an important series of tests to be started early this spring.

**Wainwright Producer**

In the Wainwright Field, east-central Alberta, Onalta Oils' No. 1, LSD 8, Section 20-45-6w4, blew suddenly into big gas production at 1,925 feet. The gas flow, estimated 10,000,000 feet a day, caught fire, destroying the derrick and buildings. John Bateman, driller, and Jack Bonner, tool dresser, were slightly burned. Efforts are being made to extinguish the fire with dynamite, when the test will be rigged up to drill deeper, the oil sand being expected at 2,200 feet.

Fabyan Petroleums' No. 3, offsetting the Imperial mystery well, is expected to start rigging up with a rotary outfit early in March, and No. 4 will be drilled later. Toralta-Dome Oils, Ltd., of Fort Frances, Ontario, is planning to start development on the old Dome-Anwood holdings in the spring. No. 1 well, LSD 7, Section 31-45-6w4, now on top of the sands at 2,072 feet, will be definitely tested, while No. 2, LSD 5, Section 18-44-6w4, will be spudded in as a rotary test.

In the Kinsella Field, Duluth Syndicate's No. 1, LSD 2, Section 29-46-10w4, which blew in about a month ago with a gas production of 30,000,000 feet at 2,020 feet depth, is standing cemented and is preparing to resume drilling. It is reported that a market has been secured for the gas. No. 1 will probably be finished as a gasser at the present horizon and No. 2 drilled to an underlying horizon for oil.

**Expenditures for Drilling**

According to a recent estimate, approximately $8,000,000 may be spent for drilling in Alberta during the coming year. Of this, approximately $6,000,000 will be spent in the Turner Valley Field. Extensive activity is looked for in the Red Coulee Field. At the beginning of 1930 some 95 tests are more or less active in Alberta, of which approximately 60 are in the Turner Valley, and it is expected that 150 tests may be drilling by May. The average Turner Valley test costs around $150,000 to drill and it is unusual for a test to be completed the same year. Last year Imperial Oil, Ltd., drilled approximately 90,000 feet of hole, against 62,500 feet in 1928.

**Ontario Fields**

In the Dover Field, Kent County, Ontario, Acme Gas & Oil Co.'s No. 3 has spudded in. This test is slightly west of Acme's No. 2, which got a small show of gas and is a few hundred feet directly south of Ajax Oil & Gas Co.'s No. 4 producer. A series of tests have failed to duplicate No. 4, and Acme's No. 3 represents the last logical direction in which the big flow can be tapped.

## MICHIGAN FIELDS

(Continued from Page 62)

Township. The Muskegon Development Co.'s No. 1 Meurer Estate, NE SE, Section 8-10-16, an original upper Traverse oil well, made about 500,000 feet of gas and 20 bbls. of oil daily at 2,010 feet. Gas was struck at 1,988 feet and oil at 2,005 feet. The Grand Rapids Oil Co.'s No. 1 Henry Smeltekop well, shut down at the casing point several months ago, was completed as a 25-bbl. initial producer in the Dundee at 2,054-57 feet. It is located NW SW, Section 5-10-16, Muskegon Township, near the north edge of the field.

The Muskegon Development Co.'s No. 2 Fred Hartman, NE NW, Section 9-10-16, Muskegon Township, north of No. 1 on the same lease which recently came in as a 2,000,000-foot gasser in the lower Traverse, failed to show any such production in the same pay sands. It had a flow of about 100,000 feet a day of gas and a spray of oil at 1,900 feet and may be shot.

The Reed Oil Co.'s No. 1 Lester Hill, NE SE, Section 8-10-16, was shout in the upper Traverse but failed to show any appreciable increase in its daily production of about 15 bbls. It may be deepened. The Reed company's No. 2 Edward F. Plunkett, SE SE, Section 8-10-16, Muskegon Township, completed last week as a 40-bbl. oil producer in the lower Traverse is being deepened to the Dundee as it failed to keep up a good commercial production.

The Reed Oil Co.'s No. 2 Lester Hill, NE SE, Section 8-10-16, has shown no increase with deepening into the Dundee but still makes about 200,000 feet a day of gas and some oil. The company's No. 4 A. Heinz, NE SW, Section 8-10-16, also continues to produce a small amount of oil daily without increase from deepening.

One new location has been made for the Lima Oil Corp.'s No. 6 Louis P. Haight, NE SW, Section 9-10-16, on the river flats.

Three new wells now being deepened are: Dixie Oil Co.'s No. 7 Fred Figge, NW SW, Section 9-10-16; Bradley & Bradley's No. 1 Alex Laymn, SW NE, Section 8-10-16; and the Central Gas & Oil Co.'s No. 1 Joldersma, NE SW, Section 8-10-16.

In Laketown Township Witt & Wyant, Inc., are pumping their No. 8 Alfred H. Fenner to give it a test in the Dundee. It was drilled in last week but made only a few barrels of oil during 6 hours of swabbing. It is 2,065 feet.

**State Lease Approved**

The Michigan state administrative board has approved an old oil lease covering about 165,000 acres of state land in Osceola, Roscommon, Missaukee and Kalkaska Counties in the northern part of the lower peninsula. The Muskegon Oil Corp. now jointly owns and is operating the lease, which includes 117,000 acres of state land, or the largest block of such land now under lease to any oil operator. The Grayling Development Co. since obtaining the lease in 1926 has assigned rights on 2,000 acres to the Muskegon Oil Corp. and the Dixie Oil Co.

Oil and gas rights on more than 36,000 acres will be offered for sale February 27. Included will be 240 acres in Midland County which lie between the proven Mount Pleasant Field and a new well on the banks of the Salt River and on a 40-acre lease in Isabella County. Acreage in Brooks Township, Newaygo County, and in Manistee County near wells which have had shows of gas also are offered. The bulk of the acreage includes about 12,000 acres in Ogemaw County and nearly 24,000 acres in Arenac County, rank wildcat territory. This acreage has been checkerboarded to protect the state against the possible future discovery of oil in these sections. No drilling has been done in either county.

Average daily production of the Mount Pleasant Field decreased last week to 7,600 bbls. of Dundee and bout 50 bbls. of Traverse oil. Saginaw had a daily production of about 230 bbls.

## SOUTHWEST TEXAS

(Continued from Page 56)

Willie, 150 feet north, 750 feet west of tract, offset to 5-A Denman; top casing 2,220 feet; top Edwards 2,587 feet; total depth 2,613 feet; 1,000 bbls. per day.

**Cole Pool—Duval County**

Magnolia Petroleum Co.'s No. 1 Brennan-Benavides, 300 feet from northeast line, 300 feet southeast line, Block 486, Mariano Arispe grant, Myrtle E. Hale subdivision; total depth 2,770 feet; flowed 95 bbls. by heads first 12 hours; next 24 hours flowed 185 bbls.

**Kohler Pool—Duval County**

Humble Oil & Refining Co.'s No. 40 Kohler, 330 feet south line, 495 feet east line, Survey 172; total depth 1,745 feet; 50 bbls.

**Lasater Pool—Brooks County**

Houston Oil Co.'s No. 1 Holbein-Wormser, 330 feet north line, 6,540 feet east line, direct offset 660 feet south of No. 1 Lasater; total depth 4,152 feet; initial production 200 bbls. 45 gravity pipe line oil.

### ABANDONED TESTS

**Randado Pool—Jim Hogg County**

Randado Oil Corp.'s No. 35 Palacious, Block 2, Survey 291, 150 feet south line, 450 feet east line; total depth 100 feet; temporarily abandoned.

### NEW LOCATIONS

**Darst Creek—Guadalupe County**

Humble Oil & Refining Co.'s No. 9-A Denman, 115 feet east No. 7, 800 feet from south line of A. S. Emmett Survey, in the A. S. Emmett Survey; derrick. Same company's No. 4 Sally Wilson, 500 feet east of No. 2, 150 feet north line of tract, in the Jacob Darst Survey; derrick.

The Texas Company's No. 2 Dallas-Wilson, 150 feet south and west lines of tract; spudded in and shut down. Same company's No. 3 P. Roamel; rigging up. Same company's No. 3 Henry Willie, 1,150 feet east-west line, 150 feet south-north line of tract, in the Jacob Darst Survey; total depth 2,590 feet; set casing.

**Cole Pool—Duval County**

Magnolia Petroleum Co.'s No. 6 Servando-Benavides, 330 feet northwest line, 380 feet northeast line, Block 7, Survey 174, O'Hern-Seacord subdivision; location.

**Kohler Pool—Duval County**

Allied Gas Co.'s (Pure) No. 1 J. T. Dinn, 1,500 feet south line, 1,500 feet east line, Survey 668; rigging up.

**Cole Gas Field—Webb County**

E. H. Buckner's No. 1-A Rosa Benavides, 660 feet northwest line, 660 feet northeast line, Cole Petroleum Co. subdivision, Mariano Arispe grant, Block 5, Survey 14; location.

**Agua Dulce Field—Nueces County**

Allied Gas Co.'s No. 1 Warren Chapman, 660 feet from most northern and western line of tract, south of Kerr location; rigging up.

### DRILLING ACTIVITY

**Dobrowolski Pool—Bexar County**

Pen-Tex Oil Co.'s No. 1 Dobrowolski, 150 feet from south line, 150 feet from east line of west 67 acres of Dobrowolski 147-acre tract, in the M. Menchaca Survey; spudded in.

**Buchanan Pool—Caldwell County**

Buchanan-Danciger No. 1 W. T. Cude, 150 feet each way out of southeast corner of 23-acre W. T. Cude lease; location.

**Darst Creek—Guadalupe County**

Cranfill-Reynolds' No. 1 R. C. Appling, 3,600 feet from southwest line, 2,700 feet from northwest line of survey, on 111-acre tract in the James Hodges Survey; total depth 2,607 feet; tested dry in lime rock; first liner at 2,575 feet.

Gulf Production Co.'s No. 2 Thomas Dix, 473 feet southwest line, 150 feet southeast line of tract, in the J. R. Robinson Survey; total depth 700 feet; drilling. Same company's No. 2 Dix-McKean, 850 feet from No. 1, offset to United North & South Development Co.'s No. 1 Dix-McKean, in the J. R. Robinson Survey; total depth 2,455 feet; drilling in Georgetown. Same company's No. 3 Dix-McKean, 900 feet northeast of No. 2, 150 feet from northwest line of tract, in the J. R. Robinson Survey; rigging up. Same company's No. 4, 450 feet northeast line, 150 feet southeast line of tract, in the J. R. Robinson Survey; total depth 1,225 feet; drilling in chalk. Same company's No. 1 Posey-Baker, 500 feet southwest line, 150 feet southeast line of 71-acre tract, in the J. R. Robinson Survey; total depth 2,440 feet; drilling in Georgetown. Same company's No. 2 Posey-Baker, 1,150 feet southwest line, 150 feet northwest line of tract, in the J. R. Robinson Survey; total depth 2,540 feet; drilling in Georgetown. Same company's No. 3 Posey-Baker, 150 feet each way northeast corner of tract, in the J. R. Robinson Survey; total depth 2,335 feet; drilling in Eagleford. Same company's No. 1 Knoblock, in the J. R. Robinson Survey; total depth 1,550 feet; drilling in shale.

Humble Oil & Refining Co.'s No. 1 Baker, in the J. C. Darst Survey, 150 feet north line, 183 feet west line of tract; location. Same company's No. 2 Baker, in the J. C. Darst Survey, 472 feet north line, 183 feet east line of tract; location. Same company's No. 6-A Denman, 430 feet east from 5-A Denman, 150 feet from south line of lease, in the A. S. Emmett Survey; total depth 2,576 feet; set casing. Same company's No. 8-A Denman, 650 feet north of center of south line of survey, in the A. S. Emmett Survey; total depth 500 feet; drilling. Same company's No. 1 Tadlock, 702 feet from north line, 165 feet from west line of tract, in the J. C. Darst Survey; total depth 1,750 feet; drilling in shale. Same company's No. 1 Sally Wilson, in the J. C. Darst Survey, 150 feet from north line, 183 feet from west line; location. Same company's No. 1 Yates-Wilson, in the Jacob C. Darst Survey, 150 feet from north and west lines of tract; location.

Magnolia Petroleum Co.'s No. 4 Dix, 1,330 feet from northeast line, 150 feet from southeast line of lease and farm, in the J. R. Robinson Survey; total depth 2,562 feet; waiting on cement. Same company's No. 6 Thomas Dix, 473 feet southwest line, 150 feet northeast line of tract, offset to Gulf's No. 2 Thomas Dix, in the J. R. Robinson Survey; total depth 300 feet; drilling. Same company's No. 1 L. V. Echols, in the James Hodges Survey, 150 feet to northwest and southwest lines of farm, 3,650 feet to southwest line, 3,220 feet to northwest line of survey; total depth 2,532 feet; drilling in lime rock. Same company's No. 2 L. V. Echols, in the James Hodges Survey, 150 feet to southwest and southeast lines of lease, 300 feet southeast of No. 1 well, 164½-acre tract; total depth 2,345 feet; drilling in shale. Same company's No. 1 H. G. Goldman, 1,275 feet from northeast line, 150 feet from northwest line of farm, in the J. B. Alexander Survey; total depth 2,694 feet; top Edwards; took dry core. Same company's No. 2 Annie Knodel, 150 feet each way out of northwest corner, in the J. R. Robinson Survey; rigging up. Same company's No. 2 Rand-Miller, 450 feet from northeast line, 150 feet from northwest line of tract, in the J. R. Alexander Survey; total depth 950 feet; drilling in sand and shale. Same company's No. 1 S. M. Roamel, 150 feet each way from southeast corner of 40-acre tract, in the James Hodges Survey; total depth 2,739 feet; dry core at 2,725 feet in Edwards. Same company's No. 2 S. M. Roamel, 150 feet each way from northeast corner of 40-acre tract, in the James Hodges Survey; location. Same company's No. 3 S. M. Roamel, 300 feet south of No. 2 well, 300 feet from northwest line, in the James Hodges Survey; total depth 2,247 feet; drilling in shale.

Simms Oil Co.'s No. 3 C. W. Manford, 300 feet southwest of No. 1, 225 feet from southeast line; location.

Stroubie & Stroubie's No. 2 Rand-Miller, 150 feet south from No. 1, in the J. B. Alexander Survey; location. Stroubie & Stroubie's No. 3 Rand-Miller, 150 feet south of No. 2, in the J. B. Alexander Survey; location. Stroubie & Stroubie's No. 4 Rand-Miller, 150 feet south of No. 3, in the J. B. Alexander Survey; location.

Sun Oil Co.'s No. 3 Knoblock, total depth 750 feet, drilling in shale. Same company's No. 4 Knoblock, derrick.

The Texas Company's No. 2 L. Anderson, in the Jacob Darst Survey, 150 feet to north and east lines; total depth 685 feet; shut down. Same company's No. 4 L. Anderson, 150 feet to south and east lines of tract, in the Jacob C. Darst Survey; total depth 2,440 feet; drilling in Del Rio. Same company's No. 3 Dallas-Wilson, in the J. C. Darst Survey, 150 feet north of center of south line; location. Same company's No. 5 Dallas-Wilson, 150 feet from north and east lines of the Dallas-Wilson tract, in the Jacob C. Darst Survey; total depth 2,396 feet; drilling in Eagleford. Same company's No. 1 A. E. Dowdy, 150 feet north line, 150 feet east line of lease, in the J. C. Darst Survey; total depth 2,574 feet; set casing. Same company's No. 1-A Knoblock, 450 feet from northeast line, 150 feet from southeast line of A lease; rigging up. Same company's No. 1-B Knocblock, 150 feet from southeast line, 450 feet southwest line of B lease; building derrick. Same company's No. 2-B Knoblock, 450 feet from northeast line, 150 feet from northwest line of B lease; moving in. Same company's No. 3-B Knoblock, moving in. Same company's No. 2 Posey, 450 feet northeast line, 150 feet northwest line of lease, in the J. R. Robinson Survey; derrick. Same company's No. 1 S. M. Roamel, 150 feet northeast line, 150 feet northwest line of 100-acre lease; total depth 2,525 feet; drilling in lime rock. Same company's No. 1 Parrish, 150 feet from south and west lines of Parrish tract, in the Jacob C. Darst Survey; total depth 2,613 feet; set casing.

Trinity Drillers' No. 1-B Miller, 150 feet each way out of the northwest corner of 23.5-acre tract, in the J. B. Alexander Survey; total depth 2,425 feet; drilling in Del Rio.

United North & South Development Co.'s No. 1-B Dix-McKean, 150 feet out of the south corner of 20-acre tract, in the J. R. Robinson Survey; total depth 1,820 feet; drilling in shale. Same company's No. 2-A Dix-McKean, 150 feet from southeast and northeast lines, Lease "A," 81-acre tract, in the J. R. Robinson Survey; total depth 600 feet; drilling in sand and shale. Same company's No. 3 P. Roamel, in the J. R. Robinson Survey; rigging up rotary.

**Pettus Field—Bee County**

Union Producing Co.'s No. 6 Ray, 1,200 feet east of No. 2; total depth 4,157 feet; made drill stem test of sand streak in shale; sand 4,148-57 feet; tested 60 feet oil 18 fourbles salt water. Same company's No. 5 George Ray, northeast offset to Houston Oil-Humble's No. 1 J. J. McKinney; total depth 560 feet; set 560 feet 10-inch surface casing; waiting on cement.

**Cartwright Pool—Live Oak County**

Houston Oil Co.'s No. 2 J. B. Dunning, in the M. B. Kilvin Survey, 1,445 feet north of No. 1; total depth 4,400 feet; cored tight sand showing oil.

**Saxet Pool—Nueces County**

Saxet Gas Co.'s No. 5 Dunn, 750 feet northeast of southwest lines of Dunn tract and 1,500 feet southwest of No. 1 Dunn or (Saxet) discovery well of field; total depth 3,385 feet; bailed salt water on test; will drill deeper.

**Nursery Field—Victoria County**

Humble Oil & Refining Co.'s No. 2-A Jay J. Welder, in the D.L.&C. Survey, 1,634 feet southeast line, 736 feet southwest line, 1½ miles northeast from Nursery; total depth 5,600 feet; failed to land casing; making new hole 90 feet off bottom.

**Kohler Pool—Duval County**

Everett Suladie's No. 1 Peters, 165 feet south line, 230 feet west line, Survey 33; rigging up.

Allied Gas Co.'s (Pure) No. 1 Peters, 660 feet north line, 660 feet west line, Survey 161; total depth 1,766 feet; sand 1,760-66 feet tested gas; set 6⅝-inch casing at 1,759 feet; waiting on cement.

Humble Oil & Refining Co.'s No. 41 Kohler, 2,970 feet south line, 330 feet east line, Survey 165; location. Same company's No. 42 Kohler, 495 feet south line, 165 feet west line, Survey 171; corrected location.

Simms Oil & Gas Co.'s No. 8 Dinn, 660 feet south line, 660 feet east line of SW SE, Survey 143; drilling at 1,000 feet.

**Schoolfield-O'Byrne—Duval County**

C. E. Long's (Shell) No. 5 Hahl, 150 feet north line, 630 feet east line, Block 26, Survey 250; location.

**Randado Pool—Jim Hogg County**

Magnolia Petroleum Co.'s No. 1 Weil, Block 2, Survey 5, 660 feet north line, 349 feet east line; total depth 2,787 feet; drilling.

**Henne-Winch-Fariss—Jim Hogg County**

George S. Marshall's No. 4 Holbein, Share 3, Block 10, Survey 11, 150 feet south and west lines; derrick up. George S. Marshall's No. 5 Holbein, Share 3, Block 10, Survey 15, 150 feet north and west lines; rigging up.

**Roma Pool—Starr County**

The Texas Company's No. 1-B V. C. de Guerra, 150 feet south line, 150 feet west line of north 1,173 acres, Share 92, Porcion 68 of Partition Porcion 67-68-69-70-71-72, Jurisdiction of Mier; rigging up.

**Carolina-Texas—Webb County**

Foster-Barnsley's No. 7 Webster, Survey 684, 750 feet east line, 510 feet south line of NE SW of survey; total depth 2,612 feet; testing.

W. R. Shankle's No. 2 Webster, Survey 684, 1,170 feet west line, 150 feet south line; rigging up.

**Magnolia-Cole—Webb County**

Magnolia Petroleum Co.'s No. 4 Brennan-Benavides, Mariano Arispe grant, corner Blocks 16, 17, 52, 53, Myrtle E. Hale subdivision; total depth 3,080 feet; sand 3,070-80 feet tested gas and oil; set 5¾-inch casing at 3,070 feet.

O. W. Killam's No. 17 Bruni, 458 feet southwest line, 328 feet northeast line, Block 35, Adams (Foltz) subdivision of A. M. Bruni lands, Survey 8, Mariano Arispe grant; total depth 2,220 feet; drilling.

**Cole Pool—Webb County**

W. E. May's No. 1 Volpe, 660 feet east line, 840 feet south line, Block 15, Survey 694; rigging up.

Allied Gas Co.'s (Pure) No. 1 Bruni, 200 feet southwest line, 450 feet northwest line, Mariano Arispe grant, Survey 7, Adams (Foltz) subdivision; total depth 2,249 feet; coring.

Magnolia Petroleum Co.'s No. 1 S. Perez, Survey 460, J. Poitevent, 1,980 feet north line, 660 feet west line; total depth 4,660 feet; drilling.

Magnolia Petroleum Co.'s No. 2 King-Harper, Block 2, Survey 323, 660 feet north and east lines; location.

**Jennings Pool—Zapata County**

O. W. Killam's No. 2 F. G. Martinez, 543 feet west line, 150 feet south line of SE, Survey 2; total depth 200 feet; drilling. O. W. Killam's No. 17 Cuellar, 600 feet north line, 940 feet east line, 160-acre Cuellar tract out of 1,772-acre Cerrito Blanco grant; derrick. O. W. Killam's No. 19 Cuellar, Cerrito Blanco grant, 150 feet northeast line, 3,876 feet northwest line of 1,772-acre Cuellar tract; total depth 1,540 feet; set 6⅝-inch casing 1,537 feet; sand 1,537-40 feet; testing.

R. F. Blankenship's No. 2 Garza, Block 2, Survey 413, 425 feet west line, 425 feet north line; ready to spud; laying water line.

Blair & Acklin's No. 2 Trevino, Block 1, Survey 66, 150 feet west line, 200 feet north line; total depth 1,254 feet; backed off two joints of casing in hole, fishing (hole cleared).

## WYOMING WANTS PERMITS

WASHINGTON, D. C., Feb. 8.—Governor Emerson of Wyoming has informed President Hoover that the Rocky Mountain states desire a further modification of the Hoover oil conservation policy. He said there was a distinct need for light gravity oil, and that present production in Wyoming showed that light gravity oil was there. In view of the President's policy of not granting permits to explore for oil on government land, he said, it was impossible for Wyoming now to produce oil that is really needed.

Governor Emerson said the Hoover administration had been extremely fair in its conservation policy, but was working hardship not only on Wyoming but on all the Rocky Mountain states.

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FOR SALE two size E Cyclone Tractor Drilling Machines, complete with tools. Good condition. Also leases for sale in Southeastern Ohio, Pennsylvania Grade oil district. Address, H. C. Farmer, 58½ South 2nd St., Newark, Ohio.

FOR SALE—Used American Marsh Steam Pumping Engines, 2—6X36 and 5—7X24. 7,000 feet Regular 2-in. 4½ lb. and 5,000 feet Upset used LW tubing. Elliott Machine & Supply Co., Depew, Okla.

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Five 10' ID Chapman New Standard Rotary Gas producers, in first class condition. Full information on request. Pittsburgh Plate Glass Co., Barberton, Ohio.

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FOR SALE
1 No. 3 National Drilling Engine complete; has drilled only two wells and is in A-1 condition. Machine located near Clovis, New Mexico. For information write International Supply Company, Artesia, New Mexico.

BELTING—8" 6-ply A.P.I. special. 80c per foot. F.O.B., K. C., Mo. M. Eichenberg, 1512 Locust St.

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WANTED TO HEAR FROM someone having a good shallow oil or gas proposition who would like to take a partner who has a good shallow drilling rig for drilling 500 to 700 feet. Especially interested in transactions in Pennsylvania, Kentucky, Indiana, Ohio and Michigan. Address Box E-78, The Oil and Gas Journal, Tulsa, Okla.

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Nearly $2,000,000 has been paid the Royalty owners in the Oklahoma City field during 1929.
I know the field, handle investments from $500.00 to $50,000.00 and solicit business from Individuals, Brokers, Investment Houses, and Royalty companies.
Maps and Data on Request.
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Hersk Bldg.,
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A CHANCE to get under a shell deed; other drilling wells offsetting an initially 1,100-barrel producer. Derrick up and ready to spud. Reasonable price. Full particulars. James R. Haynes, Grantville, Kansas.

U. S. Royalty Corporation
Organized by well known oil men and geologists. Write today for information.
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WOULD YOU pay my living expenses and carry me for small interest if I can convince you that my former experience in oil properties would net you a handsome profit in short time? References. J. T. Cox, San Angelo, Texas. R. R. No. 1, Box 581.

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ROYALTY COMPANY—Experienced oil man now employed in responsible position by independent oil company contemplates organizing royalty company and invites inquiries from those financially able to make substantial investment in such a project, whose policies of management are to be based upon safety and conservatism. Address "Royalty," P. O. Box 708, Dallas, Tex.

EXCHANGE for acreage of equal value five lots in Aurora, Colo. For full information address Albert Hammer, Wallingford, Conn., R. D. No. 1, Box 55.

STRUCTURES WITH ACREAGE READY FOR DRILLING. Experienced graduate geologist and civil engineer makes careful studies, maps and reports; acquires acreage for oil and gas development. Offers excellent opportunity for investment. Write Box E-100, The Oil and Gas Journal, Tulsa, Okla.

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170,000 acres northern New Mexico. Some coal. Structure favorable for oil. K. A. Heron, Chama, N. Mex.

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Owners of 30,000 acres in Southwest Texas had ranch explored geophysically—Magnetometer and Torsion Balance—by a competent geophysicist. Indications of two anticlines and two faults. Parties interested write to P. O. Box 245, Granger, Texas.

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Reconditioned pipe, casing and Oil Field Supplies. Also Gasoline Plant Equipment. Lee Morrison Supply Co., Bartlesville, Okla. Branch yd. at Sand Springs, Okla.

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## POSITIONS WANTED

PURCHASING AGENT. With a background of 18 years experience in oil and gas engineering field work wishes to make a change. Engineering education and an experienced executive. Write Box E-68, The Oil and Gas Journal, Tulsa, Okla.

DESIGNER-ENGINEER. 15 years general experience. 5 years refinery design. Open for position about March 1st. Write Box E-80, The Oil and Gas Journal, Tulsa, Okla.

GAS ENGINEER with 18 years experience in all phases of oil and gas work, desires position as gas engineer or superintendent. Correspondence desired. Write Box E-67, The Oil and Gas Journal, Tulsa, Okla.

GEOLOGIST: Ten years experience in consulting work. On account of heavy loss by fire seeking temporary or permanent position. Familiar with Kansas shale gas. Write Box E-106, The Oil and Gas Journal, Tulsa, Okla.

## POSITIONS WANTED

CAPABLE EXECUTIVE, 12 years' experience Texas, Louisiana and Arkansas fields. Familiar with drilling, producing, leases and royalty and general trading, now employed by independent oil company. Open for connection with producing or royalty company desiring Texas representative. Only responsible offers from reputable operators considered. Write Box E-99, The Oil and Gas Journal, Tulsa, Okla.

CAPABLE EXECUTIVE ASSISTANT who has had considerable railroad traffic, rate, route and car record experience and who is also an accountant and expert stenographer familiar with all branches of office detail, at present employed, desires to make change. Can make some oil company a good Traffic Manager or some executive a good assistant. Write Box E-88, The Oil and Gas Journal, Tulsa, Okla.

GEOLOGIST: 15 years domestic and foreign experience, both company and independent, desires connection with future. Qualified for all types of work. Opportunity main consideration. References. Write Box E-105, The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED BUSINESS MAN desires position in purchasing department of oil or supply company. Especially familiar with pumping equipment. Thorough knowledge of general office details. Write Box E-103, The Oil and Gas Journal, Tulsa, Okla.

HEAT AND FROSTPROOF insulator wishes permanent employment large refinery. Can handle any kind of insulation material. Best references. Write Box E-104, The Oil and Gas Journal, Tulsa, Okla.

MECHANICAL ENGINEER with broad experience in water supply, pumping equipment drilling operations, etc., desires responsible executive position. Write Box E-107, The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION ENGINEER efficient in reducing operating cost and increasing daily production desires to make change where there are chances for advancement. Write Box E-108, The Oil and Gas Journal, Tulsa, Okla.

## HELP WANTED

WANTED: GAS ENGINEER BY OLD MID-CONTINENT OIL CO. University trained, some practical experience in deep pressure and flow. Apply or write 418 Atlas Life Bldg., Tulsa, Okla.

WANTED: TWO GRADUATE GEOLOGISTS BY RELIABLE MID-CONTINENT OIL CO. Experience not absolutely necessary. Give age, education and pertinent details. Address Box E-102, The Oil and Gas Journal, Tulsa, Okla.

NATURAL GASOLINE PLANT EQUIPMENT DESIGNER wanted. Must be experienced with several systems used and thoroughly familiar with details of all parts. Prospects are good for competent man. Must be graduate of mechanical engineering or chemical engineering course. Location near St. Louis. Write Box E-110, The Oil and Gas Journal, Tulsa, Okla.

WANTED: MECHANICAL OR CIVIL ENGINEERS, BY RELIABLE MID-CONTINENT OIL CO. University trained men with some gasoline plant or gas lift construction experience. Apply or write Personnel Office, 418 Atlas Life Bldg., Tulsa, Okla.

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Oklahoma City, Okla.

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OIL LEASES—In and around the fine productive oil fields of Texas. Will sell blocks of acreage of any size. If it is money that you want, get in touch with me. N. M. Bullock, Rockdale, Tex.

NEW VAN OIL field in East Central Texas oil belt. Write for Royalty and Lease prices. Frank Clarke, Grand Saline, Van Zandt County, Tex. Box 596.

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FOR SALE Oklahoma, Kansas and New Mexico 5 and 10-year oil and gas leases in large and small blocks. Also Oklahoma and New Mexico royalties. Robert O. Zielinski, 12836 Wood St., Blue Island, Ill.

FOR SALE. LEASES on Red Coulee Structure, Northern Montana and Southern Alberta's new sensational Oil Field. Many new wells to be drilled immediately. Field now in production. Write us for information.
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Oil and Gas leases on State Lands will be offered at public auction February 27 in the Senate Chamber of the Capitol Building, Lansing. 36,000 acres in Towns 21 & 22 North, Ranges 1, 2, 3 & 4 East, Ogemaw County; Towns 19 & 20 North, Ranges 3, 4, 5, 6 & 7 East, Arenac County; Town 21 North, Range 16 West, Manistee County; Town 16 North, Range 3 West, Isabella County; Town 15 North, Range 2 West, Midland County; Town 12 North, Range 12 West, Newaygo County. For list of descriptions, lease form, rules and regulations, write Lands Division, Department of Conservation, Lansing, Michigan.

60-ACRE LEASE, Van Structure, NE 87 per acre, ⅛ of landowner's royalty free. Tyler, 1130 Cedar Hill Ave., Dallas, Tex.

HAVE LARGE BLOCK OF ACREAGE under lease in Pa. which has been approved by one of Pa.'s practical geologists. Will give two or three blocks of 2,000 acre each or checker board throughout the field for a contract for the drilling of said wells, agreeing to sell me the gas. Unusual opportunity. For particulars address Box 256, Mansfield, Ohio.

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## LEASES—PRODUCTION

FOR SALE—25,000 acres, 10-year paid up leases, Uvalde, Edwards, Kinney, Bandera and Real Counties, Texas. No rentals. $1.35 per acre. L. W. Stieren, Alamo Bank Bldg., San Antonio, Tex.

OIL LEASES. 250,000 acres Pecos, Ten year paid up. 200,000 acre ranch. In fee highly improved. Other oil leases and ranches at great bargains. Box 244, San Angelo, Texas.

FOR SALE—Oil and gas lease on 149 acres out of Section 4, Township 4, Range 7, Pontotoc County, Okla. Fifty dollars per acre. C. R. Smith, Hereford, Tex.

FOR SALE. All, or part, of my Proven and Semi-proven Oil and Gas leases and royalties in Ark., and La. New Fields. Must drill four wells soon. To right party will give enough time to raise money. Price $50,000.00. For particulars address J. S. Dashko, El Dorado, Ark.

WEST TEXAS mineral lands $2.50. Ten and twenty year leases, $1.25 and $1.50. Joe Cunningham, Big Spring, Texas.

FOR LEASE: Oil and gas rights on eleven hundred acres northwest of Stinnett in Hutchinson County, Texas. George B. Lucas, Austin, Texas.

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FIVE-ACRE royalty between the Jarman and Magers well in Van Zandt County. Adjacent to well now being drilled. Will sell on basis of $50,000 per acre. Write Box E-101, The Oil and Gas Journal, Tulsa, Okla.

A REAL BUY

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BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

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ROYALTY AND LEASES
Van Zandt County, Texas.
Caldwell and Holland,
Grand Saline, Texas

WE WANT good oil and gas royalties. Send us full information with reports. U. S. Royalties Corporation, C. A. Johnson Bldg., Denver, Colo.

## ROYALTIES—PRODUCTION

FOR SALE—Perpetual deeded oil royalty under major oil company leases, Lea County, N. Mex. Also five year state oil and gas leases, low rental, small investments, easy terms. Monarch Inv. Co., Roswell, N. Mex.

FOR SALE—ROYALTIES. Belcones Fault, L. W. Stieren, Alamo Bank Bldg., San Antonio, Tex.

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Sain and Company, Liberal, Kans.

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Hobbs Pool, Lea Co., N. Mex.
Perpetual, participating. 1 acre or more at $50.00 per acre.
Masterson Pool, Pecos Co.
Perpetual Fee Royalty under 8 sections. Surrounding well at $50.00 per acre.
Robert E. Ellis, San Angelo, Tex.

NEW ROYALTY LIST. Van Zandt County, Texas; also Okla. and Kans. royalty. Harry Haynes, Grantville, Kansas.

ROYALTY INTERESTS, Van Zandt, Smith, Wood, Henderson, Anderson and Ector Counties, Tex. Lists and maps. James R. Haynes, Grantville, Kan.

WANTED—From owners only, Texas and Oklahoma small producing royalties. Give full particulars first letter. W. T. and C. C. Doyle, Southwestern Life Building, Dallas, Tex.

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FOR SALE—OKLAHOMA COUNTY ROYALTIES. H. T. Orcutt, 1106 Colcord Bldg., Oklahoma City, Okla.

ROYALTY BARGAINS in Oklahoma, Lincoln and Pott Counties for sale. American Inv. Co., 201 Elks Bldg., Oklahoma City, Okla.

SEVERAL HUNDRED acres of royalty for sale in eastern part of Oklahoma County, Oklahoma. Advise me where you are interested. Shirley Thompson, Jones, Okla.

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ECTOR COUNTY—4th well 1,500 bbls. Royalty interest $40 to $100, ¼ cash, balance monthly. C. H. C. Anderson, Linz Building, Dallas, Tex.

FOR SALE: 100 acres coal royalty; pays 15 cts. per ton, price $50 per acre. Development started.
Jasper N. Butler,
Poteau, Oklahoma

ROYALTIES: WILLIAMSON CO., TEXAS. New Chapman balcone fault gusher strike. Quick action. Already 20 new locations since discovery gusher came in January 17th. This is the HOT SPOT. Wire or write C. H. Briscoe, Cowles, Neb.

OIL ROYALTY for sale, seven-eighths Mineral Deed, 82 Sections Brewster County. Price $1.50 acre. Other Royalties, Leases. Box 244, San Angelo, Tex.

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## ROYALTIES—PRODUCTION

PRODUCING ROYALTY WANTED

Want to buy small producing royalty interests anywhere in Oklahoma or Texas fields. Must be priced to sell and give full particulars as to location, income, etc. Address Box E-109, The Oil and Gas Journal, Tulsa, Okla.

HUDSPETH COUNTY, Texas. ⅛th Mineral Deed under 5,887 acres. Leased 10 yrs. 50 cts. rental. Price 20 cts. per acre. W. E. Priddy, Wichita Falls, Tex.

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POINTER puppies high class and of the best breeding possible. Direct descendants of Fishel's Frank, Champion Comanche, Frank Etz. Buy a real Pointer. U. R. Fishel, Box O, Hope, Ind.

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$10 MONTHLY acquires 5 acres pecans, figs, oranges. Cared for. Suburban Orchards. Dept. J, Biloxi, Miss.

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BARGAIN—Farms central Oklahoma; prospective oil value. Write for list. E. M. Byers, 513 McBirney Bldg., Tulsa, Okla.

## WANTED

WANTED—Agents to sell gas and oil leases carrying full seven-eighths interest in 20,000-acre block, Ripley County, Mo. Geology and location made by E. N. Daniels of Dallas, Tex. Priced from $5 to $20 per acre. Rig moving on the ground. Ripley-Butler Development Co., Naylor, Mo.

WANTED—Two to six hundred barrels 36 gravity or better in Central Texas area. Pipe line runs and necessary data in replying. Box 1423, San Antonio, Tex.

DRILLING CONTRACT wanted for an interest in 10,000 acres on definite structure determined by geologist of wide experience. Leroy Taylor, Box 1096, Seminole, Okla.

(ADDITIONAL CLASSIFIED WANTS ON NEXT PAGE)

# Chicago Thinks Low for Season Past

## Next Movement to Be Upward Is Belief of Many. Contract Movement Chief Activity, Spot Demand Light

By J. B. Waldo

CHICAGO, Feb. 10. — The contract movement of gasoline is holding up and in this market is the chief activity as the spot demand continues light. There were a few inquiries for fairly large quantities from jobbers who were in some cases at least considering the matter of ordering for storage. In one instance the jobber declined to place the order stating that it was his belief the price would be lower later. This is quite contrary to the views of several of the leading refiners who believe the low for the season has been seen and that the next movement will be upward. There was no change in quotations made to buyers of U. S. Motor. The larger refiners are practically out of the spot market and the business being done by the smaller refiners and tank car marketers has been placed at around 5¾ to 6 cents with quotations above the latter price largely nominal. The higher gravities were quiet today but prices were at the level of the close of last week.

### Kerosene Little Better

Kerosene was selling a little better but the movement is not large. The warmer weather of last week has brought about an oversupply of furnace oils in the tanks of distributors who are practically out of the market today and are slow in taking in their shipments on orders made previously. Distillates were decidedly easy and were being freely offered for resale and in some cases direct as low as 3 cents for a good 38-40 straw. The good zero gas oils were just about holding their own but the demand continued light on Monday. The heavy fuel oils were neglected by tank wagon distributors but the industrial users were taking larger quantities. New business was light on Monday but there were some inquiries for fair amounts. For strictly specification material prices were firmly held but some 18-22 oil was offered at 5 cents under the prevailing market. One refiner has made a quarter cent advance in neutral oils claiming the major refiners in the Mid-Continent Field have small supplies, several being sold ahead. The weather began this week with sunshine and moderate temperature with warmer weather predicted.

### Storage Low

Distributors' storage is for the most part very low. Now they are considering filling their storage at least in part, and there have been some sales made during the week, a part of which will undoubtedly go into storage. There are some jobbing companies who have accumulated some gasoline by the simple method of taking their contract quotas even when not moving the gasoline, but as a rule the jobbers have small stocks and the time is coming when they will buy some gasoline for storage. What they want right now is not so much a lower price as the assurance that the price, whatever it may be, will hold. Talking with several about the cost and profits of storing gasoline, almost the invariable remark is: "How do I know that gasoline will advance?" The well-posted jobbers know that stocks were large a year ago and that they are much larger today. The outlook for increase in consumption a year ago was 15 per cent. Today it is estimated by some of the best posted men in the industry as not likely to exceed 8 per cent over 1929. They believe in a great many cases that the coming season is to be one of low prices and wide margins.

The price situation last week was most unsatisfactory. There were free offerings by refiners most anxious to move their U. S. Motor stocks and the result was a weakness of prices which resulted in some declines. The major refiners were still holding to their old prices which might be 6½ or 7 cents but were practically nominal. One of the very largest refining organizations which sells to the jobbing trade moved but a little over 100 cars to spot buyers during January, not an average of one a day for each of its large refining plants. Its movement on contracts was fair and it was not too much disturbed by the rather sharp decrease in its own distribution. Some other large concerns state they did not sell a car a day in spot business. Their prices were too high for the spot buyer who could buy the forepart of last week at a little less than 6 cents and at the close had little difficulty in finding a seller at 5½ cents. This is possibly the lowest price at which gasoline has been sold. The U. S. Motor grade suffered more than the higher gravities but even the latter were none too strong. There was quite a bit of inquiry for prices over a period and a few were made but not generally, as the refiners were unwilling to name a price which would compare in the minds of the jobbers with the present market. Some marketers stated they had offers for resale at 5¾ cents over 30 or 60 days for U. S. Motor out of North Texas and of 6⅛ cents for the 50-62 400 endpoint over 80 days. But these offers were not widely made. There were many offers of 5½ cents for immediate shipment and some refiners were calling up long distance and seeking business at that price. The 60-62 437 endpoint was quoted by several at 5¾ cents and occasionally at 5½ cents.

### Antiknock Demand

The demand for the antiknock gasoline seems to be largely centered on Ethyl. A report made states that during 1928, 3 per cent of all the gasoline sold in this country was blended with Ethyl, and that during 1929 the percentage had increased to 7 per cent. For 1930 the percentage should be much higher, as some well-known refiners such as Barnsdall, Mid-Continent and others have secured licenses to blend and sell the blended gasoline. The great demand from refiners and jobbers is taxing the resources of the makers of Ethyl and there may be some delay in licensing other refiners until the supply of the Ethyl is much increased. The popularity of Ethyl gasoline with the public was shown by some reports of sales made by well-established gasoline distributors. These reports showed what would be considered as phenomenal increases. In a number of instances the sales of the organization had been doubled and the sales of certain stations trebled by the introduction of Ethyl Gasoline. These increases were made at the expense of the premium grades formerly carried but in most cases the sale of the U. S. Motor grade was not reduced and the total gasoline sales increased by amounts ranging from 20 to 50 per cent of the business done. The sale of this motor fuel also helped most of its distributors in their lubricating business. The argument which they draw from the results obtained by the sale of Ethyl Gasoline is that the public is willing to pay for a premium motor fuel if it feels it is worth the price. There are motor fuels such as the antiknock gasolines made by some refiners and some of the benzol blends which, according to tests, are as efficient in obviating the knock and in giving superior power as the Ethyl Gasoline but the public does not demand these motor fuels and does want the Ethyl Gasoline. Another point in its favor is that the dealer who handles the product must be one who is strictly ethical in the management of his business. In this connection it is not considered ethical to reduce the price of the white gasoline below normal, so the blended product acts in some degree as a stabilizer of the jobbers' market.

### Condition in Ohio

The condition in Ohio is very little changed. A large refiner stated last week that to get any business in Detroit he had to quote under 9 cents delivered or 5.3 cents, Group 3, and that he had withdrawn from that market. Some gasoline is still coming out of Lawrenceville at the same basis of prices as during the past few weeks which would be 5⅝ cents, Group 3, for delivery in this city. The movement of naphthas from Texas crudes is light right now judging from the sales of natural gasoline. Incidentally, it is stated that the sudden interest shown in Refugio crude by a couple of the largest Texas refiners is due to the fact that they have found that a very high grade naphtha can be run from it by cracking, which naphtha has a gravity of 46-49 and a benzol equivalent of 55 which, blended with natural gasoline, will make a fine motor fuel, especially for consumption along the Gulf Coast. There is the regular amount of contract renewing but many of the contracts do not expire until next summer. Salesmen insist they meet with some contracts which give the jobber a greater guarantee than 4 cents below the tank wagon market but that the major refiners are not the ones offering these contracts. They are sticking to the regular guarantee.

### Furnace Oils

The mild weather of last week decreased the consumption of furnace oils and served as a hint that the end of the season of large consumption was not so far off. The local distributors seem for the most part to have ample supplies, having had a week or more to accumulate them from their regular shipments. Sellers who have tried to work off some excess cars of distillate or gas oil have been met with the statement that the distributor had all the material he could take in. There was quite an effort made to find a place for cars in transit which had been shipped on orders received as a result of the last cold spell and when they arrived, unless they had an actual buyer, in some cases not even then, could they be placed regularly. Distillates have continued to weaken. Prices have been quoted as low as 3 cents, Group 3, for very high-grade material. One refiner with a high-grade 38-40 product wired unsolicited offers of 3⅛ cents and some distillate with the specifications little short of a good kerosene has been offered at 3 cents. Some of the large refiners have stated that their quotation was 3½ or 3¾ cents but have admitted they had cut the price; in fact some have even stated they did not know how low they might go if they had a real buyer.

### Kerosene More Active

Kerosene has been a little more active. There has been no rush of business but the refiners find that their orders include a larger number of cars of kerosene than has been the case. The prices have not changed and 4 cents, Group 3, is still the usual quotation in the spot market with occasional sales reported at a little more and some jobbers claiming they had bought a good 41-43 product at 3⅞ cents. More orders but most of them for single cars to a destination is the usual statement as to sales. The spring this year might be an early one, in which case the tractor demand might be felt in the southern part of the territory in another month. Prices for the past two years have advanced quite materially during the active tractor season. Some have stated their intention to buy in advance of this probable increase in price.

### Gas Oils

The gas oils have shown the same divergence between the zero and the straightrun types as for several weeks. All through this part of the country the gas companies report a slow demand from the industries for gas and they are not operating their water gas benches which are used to supplement the supply of gas from their coal gas retorts. There has been very little call for U. G. I. gas oil and prices are a little easier, especially for anything like the 30-32 product. Zero gas oil has held its own fairly well but the demand is less active and more offers are being made, so there is an easier feeling with little or no change in quoted prices up to the end of last week owing very largely to the firmness of refiners. These state that their stocks of zero gas oil are not large and as few of the cracking units are operating there is no addition to the present stocks to be made. Buyers report there is very little zero gas oil in Oklahoma but some can be had from Texas. The light gravity low flash fuel oils suitable for furnace fuel are still held, although there has been some offerings at slightly lower figures. The movement is largely on contract and the spot demand last week was very light. In fact the fuel oil distributors had an easy week so far as supplying their customers was concerned.

### Fuel Oils

The demand for the heavy industrial fuel oils continues to be disappointing. There is a steady movement of shipments against contracts and a little new spot business but neither demand is what was expected. Many of the industrial units which have contracts for their fuel needs are not operating to capacity, in fact some of the largest users are closed down. This slack demand is now being felt by all sellers of industrial fuel oils, and, while refiners claim their stocks are not large, there is a very noticeable tendency to reduce whatever stocks they may have and to provide for a future business by contracts which are favorable to the industry. There is a shifting going on in

(Continued on Page 140)


## Classified Wants

(Continued from Page 127)

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# East Coast Refiners Marking Time

## Awaiting Developments in Other Sections That May Affect Their Market. Price Revisions Become General

By A. E. Mockler
*New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street*

NEW YORK, Feb. 10.—East Coast refined products markets have been without material changes during the past week, although market sentiment is still far from strong on a number of items. Refiners generally are still marking time, pending further developments in other sections of the country which might affect the situation in the East.

Aside from kerosene and furnace oils, sales of which were helped somewhat by colder weather, demand for refined products was along rather routine lines throughout the week.

Interest in export markets was stimulated somewhat by reports that gasoline was being moved out of the Gulf at concessions from posted prices. This motor fuel, it was said, was being purchased in the open market in the field and being moved to New Orleans for shipment abroad through an independent bulk terminal at that point.

Weakness in California gasoline markets is still having its effect upon the East Coast market position. Actual movement of the California product eastward, however, remains centered in the hands of the principal integrated companies. Spot operations in Pacific Coast motor fuel are greatly restricted by the current scarcity of tankers and high charter rates.

### Tank Car Gasoline

Jobbing demand for U. S. Motor gasoline is still spotty in character, and it is a case of "meeting competition" on many sales. Refiners are holding the market unchanged at 8¾ cents per gallon at refineries, but some interests are shading this quotation by a half-cent per gallon more or less freely.

Reports are heard locally of sales in the tank car market at 8¼ cents per gallon. While business has been done at that figure, it has involved more than the usual quantities in jobbing sales. Not all interests have been willing to go as low as 8¼ cents, and it is reported that in some instances the larger companies have passed up orders rather than go down to 8¼ cents.

California U. S. Motor is selling in competition with the East Coast product, and there is no general tendency among handlers of the West Coast motor fuel to endeavor to obtain the quarter-cent premium which has prevailed on California gasoline here in former years.

Colder weather has stimulated the demand for antiknock motor fuels, and refiners have reported a material gain in percentage of sales of the premium quality product this week.

### Tank Car Kerosene

Principal East Coast refiners are holding the market for water white firm at 7¾ cents per gallon in tank cars at refineries, and a good volume of business has developed this week. Jobbers are in the market in a fair way, and a considerable volume of rush shipment business has developed.

In some sections, where freight rates are favorable, kerosene from outside refining points have been sold at prices fractionally under those maintained by East Coast refineries, but competition of this sort has been relatively small.

### Tank Car Gasoline

All of the leading marketing companies operating in New York and New England territory have now announced tank wagon and service station price revisions, bringing their quotations in line with the basis established February 1 by Standard Oil Co. of New York. Based upon the cargo market at the Seaboard, however, the market is still far from being in strong position, and maintenance of current price levels until the spring demand gets under way is still rather problematical.

Gulf is the latest company to bring a new gasoline on the market, announcing this week "That Good Gulf Gasoline Made Better." Its new product, a 400 endpoint antiknock gasoline, is being sold at no advance over regular service station prices. The company still markets a premium gasoline, however, in its No-Nox, Aviation Grade, a 374 endpoint product.

While practically all of the large oil companies in this area have in times past felt perfectly at liberty to "take a shot" at the tank wagon or filling station prices of a competitor, premium gasolines have, strangely enough, largely escaped price competition, in so far as the major brands are concerned.

Consumption of motor fuel of all grades is off a little this week, owing to unfavorable weather conditions, with refiners and marketers of the opinion that weather conditions over the next two months will be largely instrumental in "making the market" as the industry here goes into the spring and summer motoring season.

### Tank Wagon Kerosene

Tank wagon and service station kerosene prices have been changed by all of the principal eastern marketing factors to conform with the new schedules announced by Standard Oil Co. of New York, effective February 1. The tank steamer market for kerosene at East Coast ports is not subject to the same fluctuations as gasoline, however, and the trade looks for a fairly stable market on the burning oil.

Demand for kerosene has been rather "spotty" during the week just ended, and tank wagon deliveries fell off somewhat. The weather has been very unsettled, cold weather coming on the heels of a warm spell, and vice versa. Marketers in this area are not carrying excessive stocks of kerosene, however, and the statistical position of the market is fairly stable.

### Fuel Oil

Maritime consumption of bunker oil is holding up fairly well, and the market remains steady and unchanged at $1.05 per barrel, in bulk, at local and nearby refinery terminals. Normally, during the first quarter of the year, a number of vessels are withdrawn from the transatlantic runs and laid up for the "off-season." This year, however, there have been more of the large passenger vessels in the West Indies cruise business, and this has gone far toward holding up contract withdrawals of bunker oil. Current indications in the steamship trade indicate an early start of the tourist trade, and fuel oil consumption will naturally show an increase.

In the domestic field interest is centering in the experiments of two of the leading manufactured gas companies in the East in the use of heavy fuel oil in place of gas oil in their manufacturing operations. According to an official of one of the companies, the experiments show promise, but have not yet proceeded far enough to permit of any definite conclusions regarding the possibility of a more widespread use of bunker oil in gas manufacturing operations. Such a development, it is felt, would be of great importance in oil market, aiding further in taking up the slack caused by the heavy overproduction of fuel oil.

California and South American fuel oil is reaching East Coast markets in moderate volume, but the trade in this area reports that markets are holding well at all important points. At the present level of $1.05 a barrel, they point out, there is little likelihood of any great influx of outside fuel oils, unless producers in California or South America should be confronted with the absolute necessity of "dumping" their surplus production and stocks, which contingency appears extremely remote at this time. On the other hand, it is thought possible that further curtailment in domestic crude production may possibly result in a firming-up in the price basis for bunker C in the East.

### Diesel Oil

Steady markets for Diesel oil are reported at East Coast market centers this week, and production is moving readily into consuming channels at the current basis of $2 per barrel, in bulk, at refineries. Many interests in the trade have looked for a higher market, as reflected by most of the 1930 contracts, which specify $2 per barrel as the base price, with a provision for a maximum of $2.10 for the year. This latter provision was written in because of the possibility that declining output in domestic fields might strengthen the statistical position of the market to the point where higher Diesel prices would be possible. With California Diesel oil coming eastward in a larger way, however, and the possibility of steadily growing imports from the West Indies refining area, the situation at present does not indicate anything better than maintenance of current price levels.

The importance of pleasure boat consumption of Diesel oil was reflected at the recent annual motor boat show in New York, where leading oil companies stressed the qualities of their Diesel oil for private yacht consumption. The seasonal demand for this oil from private yachts is now under way as the Florida season develops, and will be on in full blast as soon as warmer weather arrives in the East.

### Gas Oil

Industrial consumption of gas oil is well maintained, and the market this week has shown no material change. The posted quotation remains at 5¼ cents per gallon at refineries, with the bulk of the business, however, going through at a quarter to a half-cent per gallon under this figure.

Gas manufacturing companies are still using gas oil in a large way, experiments with bunker C in place of gas oil not yet having reached the point where the former is being used in a commercial way in place of the gas oil. Consolidated Gas Co. of New York, the principal consumer of gas oil in this territory, is not among those gas companies which are experimenting with the heavier oil.

### Furnace Oil

Spot demand has been rather irregular during the week, due to the extremely wide fluctuations in weather. Aggregate volume, on the whole, is fairly well sustained for this season of the year. Jobbers, however, continue to operate in hand-to-mouth volume, and are not accumulating large storage stocks.

Prices for all grades of furnace oils, particularly the higher gravities, are well maintained. A number of leading marketing companies, particularly those with California affiliations, are bringing the Pacific Coast product eastward in a fairly large way to supplement their own production and take care of their contract deliveries.

### Lubs

No further price changes have developed in the market for cylinder stocks this week, but the undertone is still rather easy. Refiners have made an effort to hold prices at current levels, and have endeavored to bring about minor price advances on some grades, but have met with little success in the effort. Buyers are firmly convinced that refinery stocks of cylinder oils are much larger than is commonly supposed, and with this view in mind are naturally withholding buying in an effort to force quotations to still lower levels. Refiners have maintained their schedules thus far, and it is again a "waiting game" in so far as cylinder oils are concerned. Domestic demand has been along routine lines, with export inquiry of small proportions.

There has been a well-sustained demand for red and pale oils on spot, and movement is running into large gallonage on both export and domestic sales. Industrial consumption is steadily picking up in home markets as manufacturing operations pick up, and refiners are optimistic regarding the outlook for second-quarter business.

### Paraffin Wax

Domestic manufacturing consumers, who came into the market in a large way during the closing half of January, have taken care of their immediate requirements, and there has been some slackening off in spot and nearby sales during the past week. Prices, however, remain firmly held, and are well maintained at the advances scored during the preceding weeks. Sellers report that contract withdrawals are holding up well, and with little selling pressure at the refineries, the statistical position of the market appears rather favorable.

Export buying of paraffin wax is held up fairly well, but there was some slackening in inquiry during the latter part of the week. The greater part of current demand for wax for shipment abroad is centering on the fully refined grades, very little buying of crude scale being noted. Scale, in fact, is rather unsettled in price, with some shading reported on competitive business for shipment abroad.

### Export Markets

Gasoline is again reported moving out of the Gulf at concessions from the posted export price. The British house which was instrumental in moving a considerable quantity of export motor fuel last fall at prices under the established basis is again reported active, buying gasoline at one-half cent under the posted prices for shipment abroad. The method of operation is to pick up the gasoline in the field, move it to an independent terminal at New Orleans, and there load it for export shipment. Aside from this development, the export market at the Gulf has been virtually stagnant.

The charter market is extremely strong, and most of the available tonnage appears to be tied up on charter by the large integrated companies. Out of one week's movement of 13 tankers through the Panama Canal during January, five cargoes went transatlantic and eight to North Atlantic United States ports. All of this motor fuel was being moved for the account of the larger companies, having interests on both the Atlantic and the Pacific Coasts.

California gasoline is available for shipment at low prices, but, owing to the high tanker rate and the extreme difficulty in locating tonnage for moving this fuel, there is very little business being done in the open market.

Interest in both Panuco and Venezuelan crude has subsided, and no additional contracting was reported this week. Prices asked for crude for shipment remain unchanged from last-paid levels.

There is a good movement of both gasoline and kerosene at East Coast ports this week, with the bulk of the shipments going out on contract or to European

(Continued on Page 140)

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# Natural Gasoline Manufacture

## Louisiana Gasoline Production Shows Substantial Gains

The production of natural gasoline in Louisiana in 1929 totaled 63,400,000 gallons according to a report of the Bureau of Mines covering operations for the entire year. This total represents a substantial increase over the 1928 total.

Most of the gas available in Louisiana has a low gasoline content and at one time it was thought to be uneconomical to install plants for gasoline extraction. During the past year, however, several plants were installed along the natural gas lines which are furnishing fuel to cities outside the State. Some of these plants are only able to obtain a small fraction of a gallon of gasoline from 1,000 cubic feet of gas.

Over 262,000,000,000 feet of gas was produced and consumed from Louisiana's gas fields during 1929, according to preliminary figures on the gas industry in the State compiled by the state Department of Conservation's mineral division. All but a comparatively negligible part of this gas was produced in the Monroe and Richland Fields. The 262,680,782,332 feet of gas actually produced was consumed in carbon plants in the Monroe Field and in domestic and industrial burners in nine states. As a sequel to completion of the lines to the St. Louis and Birmingham-Atlanta areas serving thousands of consumers along and adjacent to the right of way, consumption in 1930 will show a still larger total.

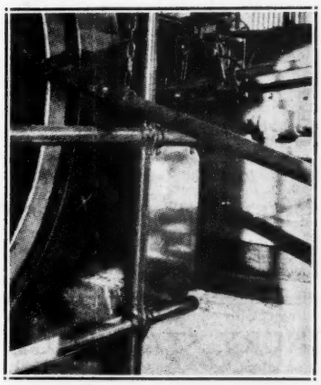
Consumption in 1929 was 29,860,422,860 feet more than in 1928 due to com-

(Continued on Page 145)

### UNIQUE ENGINE JACK

The engine jack shown in the accompanying picture was designed at the Santa Fe, Calif., No. 4 plant of the Standard Gasoline Co., and illustrates what ingenuity can accomplish in the way of modern equipment. It is described in the current issue of "The Booster."

It hangs by a hook and chain from the guard rail above and is so arranged that it is wider than the flywheel, hanging at an angle across the face of the wheel



when operative and can therefore be quickly adjusted to the rim and as quickly removed.

On account of this feature it can be easily manipulated from outside the guard rail by means of the long handle which also furnishes the required leverage and operates as a safety factor in preventing pinched fingers which often occur in using old type jacks.

With the new jack no slot in the rails, no removable stub or panel is necessary for its immediate use and it is thus in addition to its safety feature a time saver.

## SUGGESTIONS IN FIRST AID TREATMENT

By T. I. Harris
Columbian Gasoline Corp.

1. Getting ready for the prone-pressure method of artificial respiration to restore breathing.

When a man has received a severe electric shock, been subjected to poisonous gases, or has been removed from the water in a drowning condition, his breathing has usually stopped. In accidents of this kind speed may save the injured man's life, so don't waste a second. Send for a doctor at once, but don't neglect the patient to do so.

Of course the first thing to do is to get the injured man where you can work on him. This may necessitate lowering him from a pole or raising him from a manhole. This work usually involves considerable danger to the rescuer because the manhole is full of poisonous gases or the injured man may be in contact with a dangerous circuit on a pole. You must, therefore, work very carefully.

Before going into a manhole to save a person overcome by gas obtain a hand line. Pass one end of the line twice around your own body under the arms and have it tied securely; your fellow workers can pull you out if you are overcome. Take the other end of the line down in the hole with you to secure it to the victim just as it is secured to you; leave the loop up on the ground. In taking a man off a pole carry a hand line up the hole and pass it over the first cross-arm above the man. Tie the end of the hand line around the man's body under the arms. If the man has on a body belt you may pass the line through two rings of his belt and tie it securely. Drop the other end of the line to those on the ground, lower him as you guide him down the pole. Have someone there to catch him.

If you are alone with the injured man, instead of just looping the hand line over the cross-arm above him, pass it completely around the arm, so that there will be less strain in your end of the line as you lower him. In doing all this work rubber gloves should be worn. Try not to touch the injured man while he is in contact with the dangerous circuit. If you can throw the hand line around him, don't waste any time trying to get the line twice around his body. One wrap will do. If you have to touch him, take hold of his dry clothing only. Look out for his shoes, the nails are conductors and you may get a shock through them.

Usually you can most quickly clear the victim from the dangerous circuit by lifting him slightly above it while those on the ground hold the line taut. The man on the ground should then slowly lower him with the line while you guide him by the circuit. In some cases, however, it may be necessary to have the power shut off or to cut the circuit. In these cases be sure the victim will not fall when the current is interrupted. This can be done:

a. By having him attached to a hand line as we have just explained and by having the line held taut by those on the ground before the current is interrupted.

b. By securing his safety before the current is interrupted, as for example around the pole over a cross-arm or if more convenient just over a cross-arm.

If you have to cut a line circuit be sure the line end in falling won't strike you or the people on the ground and always turn your face away to protect your eyes from the flash. In a case of drowning proceed with the treatment just as you would for electric shock or gas asphyxiation.

**Asphyxiation**

If a gasoline engine is allowed to run in a closed room where the exhaust fumes cannot escape into the open air, the air is poisoned and anyone breathing it may be overcome. First aid treatment for asphyxiation of this kind is just like any other case of gas asphyxiation.

Get the victim out into the fresh air and use the prone-pressure method of artificial respiration until the doctor takes charge.

Instructions for resuscitation; follow

(Continued on Page 145)

## Who's Who
### IN NATURAL GASOLINE MANUFACTURE

### SHELL PETROLEUM CORP.

The Shell Petroleum Corp. with general offices in the Shell building at St. Louis, Mo., is known in the Mid-Continent Field both as a large buyer and manufacturer of natural gasoline. The corporation which operates major refineries at East Chicago, Ind., Wood River, Ill., Arkansas City, Kans., New Orleans, La., and Houston, Tex., for several years has had outlets for natural gasoline in excess of its production. Its large foreign distribution of gasoline is a factor in this situation and most of the natural gasoline is moved to its terminal at Norco., La., where it is blended for coastal and export consumption.

The corporation has increased its production of natural gasoline until now it is one of the largest manufacturers in the Mid-Continent Field with the bulk of its production in Oklahoma. In addition to the output of the Shell corporation proper it has the production of the Wolverine Petroleum Corp., a subsidiary which is one of the oldest manufacturers of natural gasoline in Oklahoma. In addition the corporation owns jointly with the Continental Oil Co. the production of the Comar Oil Co. with two plants in Oklahoma. A third plant is owned by the Hull, Continental and Tidal Refining Co. These three plants have a capacity of 26,000 gallons daily.

In addition to the regular grades of natural gasoline the corporation has installed equipment for the manufacture of special products including the liquefied gases. The general sales office of the corporation is located at St. Louis under the general direction of E. L. Miller, vice president. A large sales and buying office is maintained at Tulsa. The main operating office is at Tulsa under the direction of S. S. Smith, general superintendent of natural gasoline plants.

Following is a list of the plants:

**SHELL PETROLEUM CORP.**
**OKLAHOMA**

| Location— | Daily capacity gallons |
|---|---|
| SW Sec. 18-22n-3w | 4,000 |
| SE Sec. 1-14n-6e | 4,000 |
| NW Sec. 18-19n-6e | 2,000 |
| NE Sec. 8-17n-7e | 4,000 |
| NE Sec. 18-19n-9e | 3,500 |
| SE Sec. 16-8n-6e | 10,000 |
| SE Sec. 19-19n-4w | 25,000 |
| NW Sec. 29-7-5 | 70,000 |
| Sec. 7-8-5 | 20,000 |
| SE Sec. 28-19-4 | 29,000 |
| NE Sec. 30-11n-2w | 15,000 |
| **KANSAS** | |
| NE Sec. 14-32s-2e | 6,000 |
| **TEXAS** | |
| SW Sec. 83, Blk. 3, O.&G.G. Survey Panhandle | 10,000 |
| SE Sec. 107, Blk. 5, O.&G.N. Survey, Panhandle | 7,000 |
| S.A.&M.G. Survey, Brown County | 10,000 |
| Total | 219,500 |

**WOLVERINE PETROLEUM CORP.**
**OKLAHOMA**

| | |
|---|---|
| NE Sec. 12-23n-11e | 2,500 |
| E Sec. 24-24n-11e | 6,000 |
| SE Sec. 26-26n-13e | 700 |
| SE Sec. 13-26n-12e | 2,000 |
| NW Sec. 32-28n-13e | 500 |
| SW Sec. 22-4s-2w | 9,000 |
| Sec. 24-17-10, Creek County | 4,500 |
| Total | 25,200 |
| Grand total | 244,700 |

## EXPECT LARGE INCREASE IN PHILFUELS CUSTOMERS

The number of customers of the Phillips Petroleum Co. using "Philfuels" for domestic fuel increased from 800 to 8,000 in 1929 and by the end of 1930 it is expected this number will be increased to 40,000 according to an official statement of the company. The "Philfuels" are a by-product of the natural gasoline plant operation of the Phillips company and during the past two years the demand for these products generally known as liquefied gases has expanded rapidly.

These liquefied gases are shipped in tank cars and cylinders to domestic and industrial consumers. In the domestic end the company has now 14 distributing areas for Philfuels, and expect to have 16 more in operation by the end of this year. Domestic sales totaled 3,000,000 pounds in 1929 against 370,000 pounds in 1928. Including wholesale and industrial business, 1929 sales were 28,000,000 pounds, and the company looks for a rate of 63,000,000 pounds annually by the end of this year.

The Phillips company is an important producer of carbon black, and also furnishes around half of the natural gas used in production of carbon black in this country. Sales of carbon black in 1929 were 18,200,000 pounds, against 4,680,000 pounds in 1928; present production is at a much higher rate. Natural gas sales in 1929 were about 171,000,000,000 feet, against 118,000,000,000 feet in 1928.

## I.T.I.O. CAPACITY AT OKLAHOMA CITY GROWS

Three natural gasoline plants with an aggregate capacity of 150,000,000 feet a day are now being operated by the Indian Territory Illuminating Oil Co. on its leases in the Oklahoma City Field and this capacity will be increased to 245,000,000 feet with the completion of two other plants in which the Indian Territory Illuminating Oil Co. has a partnership interest.

The three plants already in operation are the Alice Bodine, SE Section 24-11-3w; the George Button, SW Section 19-11-2w, and the Verne, SE Section 13-11-3w. Each of these has a daily capacity of 50,000,000 feet and each is equipped with an absorption plant working at well pressure and 10,200 horsepower gas engine compressors.

The Lizzie Farley plant, NW Section 19-11-2w, which is expected to be in operation in about two weeks, is similar in equipment to the three already working save in the fact that it has six 200 horsepower gas engine compressors instead of 10. It will have a capacity of 45,000,000 feet daily. It is owned jointly by the Indian Territory Illuminating Oil Co., Wirt Franklin and Cromwell-Franklin.

The same partnership has begun construction of the Trosper Park plant, SE Section 12-11-3w. It will be identical in equipment and capacity with the Alice Bodine, George Button and Verne plants.

# Brief Items for Petroleum Refiners

## DR. TYDEMAN IS MADE SHELL VICE PRESIDENT

Dr. F. W. L. Tydeman, who gave up the practice of medicine to specialize in pathology and research, has been elected vice president of the Shell Petroleum Corp., in charge of manufacturing activities. He formerly was in charge of the company's manufacturing department.

Doctor Tydeman, who is 42, was graduated from the North Carolina Medical

**Dr. F. W. L. Tydeman**

College in 1912, beginning the practice of medicine in the same year. In 1913 he moved to New York to become associated with the E. E. Smith Consulting Laboratories where his work convinced him that his future lay in specialization in industrial chemistry. In 1915 he entered the employ of the Shell Oil Co. of California as technologist of that company's refinery at Martinez. Two years later he was appointed assistant superintendent of the company's refinery in Cushing, Okla., and in a short time became assistant chief technologist of the Tulsa offices. In another year he was made general superintendent of the corporation's refinery at Wood River, Ill.

During 1921 and 1922, on a leave of absence, Doctor Tydeman spent one year in West Borneo, Java and Sumatra improving and modernizing the refineries of the Batavia Petroleum Co., and the Sarawak Oil Field, Ltd., in the Far East. On his return he resumed his duties at Wood River. In 1928 he was made manager of Shell's manufacturing department with headquarters in St. Louis. Doctor Tydeman's chief contribution to the oil industry has been in the development of the Trumble system of topping plants and later in the development of the Dubbs and Cross processes.

## BARNSDALL BUYS STATIONS

The Barnsdall Refining Co. has purchased the stations of a group of jobbing companies in southeast Nebraska. The stations will be operated from the Kansas City division of the Barnsdall company.

The companies purchased are the Star Oil Co., J. W. Klossner, Humboldt; Jones-Currie Oil Co., stations at Wymore and Barneston; R. D. Maulis Oil Co., Crab Orchard and Lewiston; the Home Oil Co., I. C. Friesen, Fairbury, Neb.; W. J. Donnelly Oil Co., Pawnee City, Neb.

## KEEN COMPETITION ASSURED FOR 1930 IN EAST COAST TERRITORY

By A. E. Mockler

NEW YORK, Feb. 10.—Eastern markets will be a hotbed of competition during 1930, in so far as gasoline distribution is concerned, and the imported motor fuel, in addition to growing receipts of California gasoline, will give Eastern refiners much to contend with. Recent action by Standard Oil Co. of New Jersey, Standard Oil Co. of New York, and other leading refining and marketing organizations in establishing the cargo market at seaboard as the basis for tank wagon and service station prices has been the first step in combating the influx of outside gasoline. Cuts in domestic crude oil prices by subsidiaries of these two dominating companies have been but another step in the same direction. Future defensive tactics by major marketing interests here will be developed as the marketing "war" develops.

South America's rise as a gasoline market factor has come at a time when the California gasoline "problem" had practically reached the state of solution, and in consequence the East Coast industry finds itself in the unenviable position of having just won one major engagement only to be confronted with another of still greater magnitude.

### California Situation

Much has been said of California's importance as a factor in the gasoline market of the East, but another side of the California picture has been lost sight of in the general concern over her heavy gasoline shipments to the Atlantic seaboard. This factor has been the dwindling shipments of other petroleum products. For the full year 1929, a total of 25,749,000 bbls. of California petroleum of all classifications was received at Gulf and Atlantic ports—almost entirely the latter. This was a sharp increase from the 19,910,000 bbls. of all oils received in 1928, but materially under the 32,046,000 bbls. of all products so shipped during 1927. The gain in gasoline receipts, however, has been consistent. The following table illustrates the steady growth in gasoline shipments from California to the East Coast during the three years 1927-1929, inclusive, during which receipts increased almost 100 per cent:

| Year | Barrels of 42 Gallons: Gasoline | Crude oil | Gas oil | Fuel oil | All products |
|---|---|---|---|---|---|
| 1929 | 21,347,000 | 1,279,000 | 1,327,000 | 448,000 | 25,749,000 |
| 1928 | 14,958,000 | 3,107,000 | 1,576,000 | 269,000 | 19,910,000 |
| 1927 | 11,128,000 | 10,467,000 | 3,857,000 | 6,594,000 | 32,046,000 |

It will be readily seen from the foregoing table that the sharp drop in East Coast receipts of California crude oil came at a time when South American crude output was attaining major importance, with the discovery of the vast West Texas Pools of heavy crude also a factor. The drop in fuel oil shipments from California eastward came when the heavy receipts of the Pacific Coast product had been instrumental in forcing a drastic break in the East Coast market which within a relatively short space of time carried the market from $1.75 down to $1.05 per barrel at principal East Coast refinery terminals.

California had been virtually eliminated as a disturbing influence in East Coast markets at the start of 1929, but the entry of Richfield into Eastern markets through organization of an Eastern marketing subsidiary again brought California gasoline to the forefront. Richfield's "infiltration" into Eastern markets, however, has been orderly, on the whole, and the operations of this company in the Atlantic Seaboard area, together with the distribution of California gasoline from Baltimore by a subsidiary of Pan American, probably accounted for the entire increase in 1929 California gasoline receipts at East Coast ports.

Pacific Coast refiners have considerably widened their export operations during the past two years, but still count largely upon East Coast markets for the disposal of much of their surplus production of motor fuel. The following table, showing the sales of taxable gasoline in California for 1928 and 1929, with the totals of motor fuel shipped to the Atlantic Seaboard during those years, illustrates this statement rather graphically:

| | Gallons: Taxable gasoline sales in California | California gasoline shipped to Atlantic Seaboard |
|---|---|---|
| 1929 | 1,253,321,000 | 916,574,000 |
| 1928 | 1,101,401,000 | 675,486,000 |

While California producers have made important strides in cutting down the overproduction of crude in that state, it is evident that refineries on the Pacific Coast are still running at a rate vastly in excess of the indicated "home markets" for their output. During December, for example, California refineries produced a total of 315,420,000 gallons of gasoline. Total sales of taxable gasoline by all companies in California at the

(Continued on Page 141)

## MAPLE LEAF UNITES OFFICES

CHATHAM, Ontario, Feb. 8.—Consolidation of the sales offices of the Maple Leaf Oil & Refining Co. in Calgary and Great Falls has been announced, the new general office to be located in Lethbridge, Alberta. The company's refinery in Coutts, Alberta, is planning to handle production from the new Red Coulee Field. The plant has an estimated capacity of 5,000 bbls. a day and has been taking crude from the Kevin-Sunburst and Pondera Fields. Officers of the company are: President, W. D. Craig, Regina; general manager, H. M. Baskerville, Minneapolis; directors, M. A. Case, Regina, Saskatchewan; T. L. Murphy, Conrad, Montreal; W. L. Rice, Great Falls; D. E. Hageman, Kevin; Robert Driscoll, and W. G. Baskerville, Minneapolis; and T. L. Alford, Lethbridge. Mr. Alford will have charge of the Lethbridge office.

## TANKERS FOR THE LAKES

CHICAGO, Feb. 8.—The Cities Service Transport Co., with headquarters in New York, has bought from the Oil Transport Co. four tank ships. The tankers were built for the Government and bought by the Oil Transport Co. for use in the transport of petroleum products. It is understood they are to be used for the shipping of the products of the new refinery at East Chicago. One or more may be retained for ocean traffic but the others will be transferred to the Lakes.

## N. P. A. MEETING

The semiannual meeting of the National Petroleum Association will be held at Cleveland, Ohio, April 24 and 25. The meeting in the past has generally been held at Cambridge Springs, Pa. O. P. Keeney of the Keeney Oil Co., New York, is chairman of the program committee.

## PROGRAM PREPARED FOR JOBBERS OF MINNESOTA

The program announced for the annual convention of the Minnesota division of the Northwest Petroleum Association, to be held in Minneapolis February 19 and 20, includes the following papers: "Relation of Chemistry to the Oil Industry," C. C. Wagner, Madison, N. Dak.; "Sane Thinking and Sound Business," J. R. Atchison, advertising manager, Independent Oil & Gas Co., Tulsa; "The Code, Its Interpretation and Why It Is Being Accepted," Elwin E. Hadlick, secretary of the Northwest Petroleum Association"; "More Profits for the Independent Oil Jobber in Better Merchandising," R. M. Ward, supervisor of lubrication sales, Skelly Oil Co., Eldorado, Kans.; "Automobile Performance in 1930," Col. Theodore A. Peck, chairman research committee of oils and lubricants, Shell Petroleum Corp., St. Louis, Mo.

E. C. Laughlin of Minneapolis, president of the Northwest association, will make a report. Officers for the ensuing year will be elected Thursday, the second day of the convention, and the board of directors will meet. The closing feature will be a banquet for jobbers, their guests, wives and lady friends.

## REFINERY SITE BOUGHT BY SEABOARD COMPANY

CHATHAM, Ontario, Feb. 8.—Seaboard Oil Refineries, Ltd., is reported to have purchased a 35-acre site on Burrard Inlet, where a modern refinery, estimated to cost $2,000,000, will be erected. Contract has been let for wharf and bulkhead. The refinery will have a capacity of 4,000 bbls. of crude per day and will employ around 300 men. It will manufacture its own brands of gasoline, distillate, fuel oil and a full line of oils and greases, the residual products being sold for road construction.

## BUYS NORTHWESTERN OIL CO.

The acquisition of the Northwestern Oil Co., Inc., by the Richfield Oil Corp. of New York, became effective last week. The main bulk plant of Northwestern is located at Hyde Park, Nassau County, Long Island, and in merging with Richfield, the latter estimates its increase in direct sales at approximately 5,000,000 gallons of gasoline annually and a proportionate volume of lubricating oils and greases. About 100 retail dealer outlets, 50 commercial accounts and contracts with approximately 25 large estates in Long Island, not only for land uses but for marine equipment as well have been added to Richfield's sales.

## PROPERTIES OF HYDROCARBONS

The "Thermodynamic Properties of Petroleum Hydrocarbons" is the subject of a report by C. S. Cragoe of the Bureau of Standards. The report is listed as Project 38 of the American Petroleum Institute research.

The publication represents the first attempt apparently ever made to supply the petroleum industry and the users of petroleum products with comprehensive data on the thermal properties of these products in readily useful form somewhat analogous to the tables now available on steam and ammonia.

## FRENCH REFINERS ORGANIZE

A trade association has just been organized in France under the name of the Union of Independent French Petroleum Refiners. This new grouping is to include only those French companies engaged in refining petroleum or planning to construct refineries in the near future.

# Griscom-Russell

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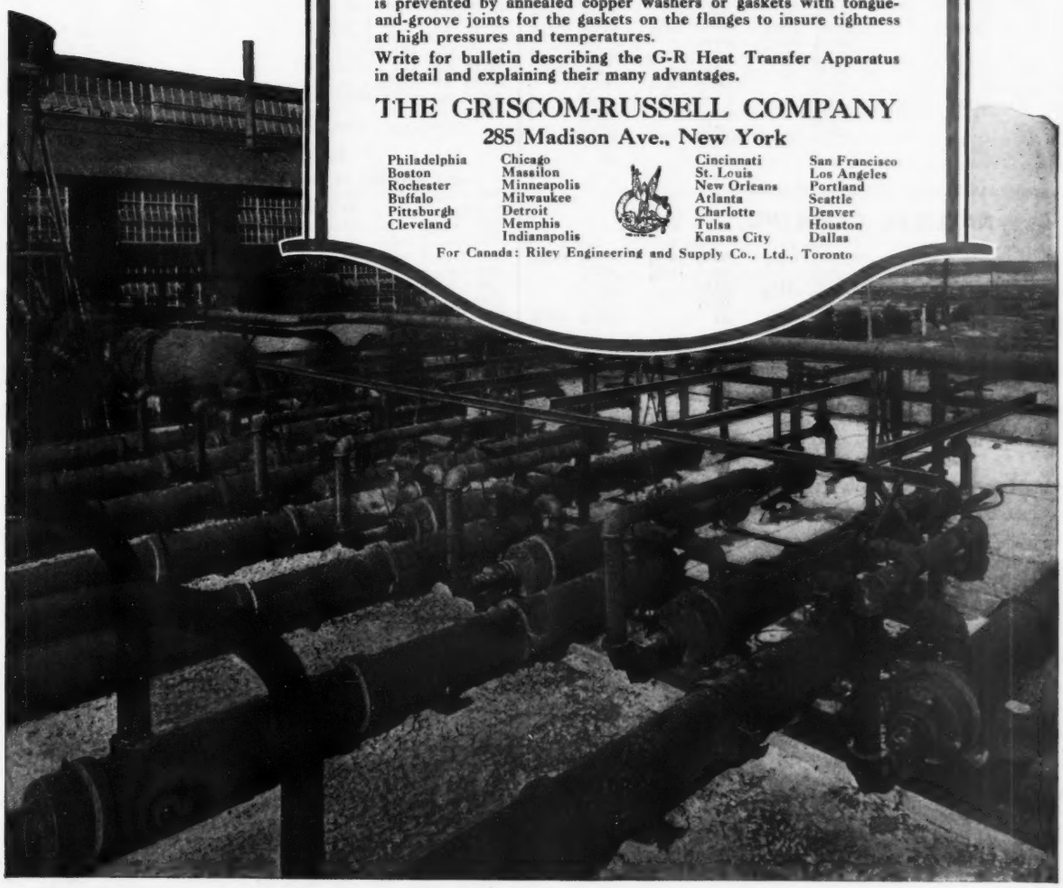
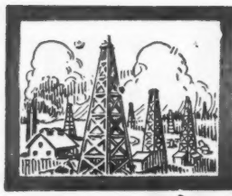




# REFINERY AND CRUDE PRICES

**Quotations on refined products are for interstate or export movement unless otherwise noted.**

## GASOLINE AND NAPHTHA

| OKLAHOMA (Group 3)— | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| 50-52 450 endpoint | .06¼ | | .06¼ | | .06¼ | |
| 56-58 450 endpoint | .05¾ | .06 | .06 | .06¼ | .06 | .06¼ |
| *58-60 437 endpoint (U. S. Motor) | .065 | | .0655 | | .0658 | |
| *60-62 437 endpoint | .0637 | | †.06¼ | .06½ | .0663 | |
| *60-62 400 endpoint | .0675 | | .0711 | | .0725 | |
| *64-66 375 endpoint | .0775 | | †.07¼ | .08 | .08 | |
| 68-70 360 endpoint | .07½ | .08 | .07½ | .08 | .07⅝ | .08 |
| 64-66 437 endpoint (blend) | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| **NORTH TEXAS—** | | | | | | |
| 56-58 450 endpoint | .05¾ | .06 | .05¾ | .06 | .05¾ | .06 |
| 58-60 450 endpoint | .05¾ | | .05¾ | | .06 | |
| 58-60 437 endpoint (U. S. Motor) | .05¾ | .06¼ | .05¾ | .06⅛ | .06 | .06¼ |
| 60-62 400 endpoint | .06⅛ | .06¼ | .06⅛ | .06¼ | .06¼ | |
| 64-66 390 endpoint | .06⅝ | .07 | .06¾ | .07 | .07 | .07¼ |
| 64-66 375 endpoint | .07 | .07¼ | .07½ | .07¼ | .07¼ | .07½ |
| 68-70 360 endpoint | .07½ | .07¾ | .07½ | .07¾ | .07½ | .08 |
| 64-66 437 endpoint (blend) | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| ***NORTH LOUISIANA—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) | .06¾ | | .06¾ | | .06¾ | .07 |
| ***ARKANSAS—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) | .06¾ | | .06¾ | | .06¾ | .07 |
| **PENNSYLVANIA—** | | | | | | |
| 52-54 Naphtha | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| 54-56 Naphtha | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| 58-60 Gasoline | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07¾ |
| 60 Gasoline | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 62 Gasoline | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 64 Gasoline | .08¼ | .08½ | .08¼ | .08½ | .08¼ | .08½ |
| 68-70 350 endpoint gasoline | .09¼ | .09½ | .09¼ | .09½ | .09¼ | .09½ |
| **CALIFORNIA—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) domestic | .09 | .10 | .09 | .10 | .09 | .10 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 50-52 450 endpoint (Nahptha) | .06¼ | | .06¼ | | .06¼ | .06½ |
| 56-58 450 endpoint | .05⅝ | .06 | .05¾ | .06 | .05⅞ | .06⅛ |
| 58-60 437 endpoint (U. S. Motor) | .05¾ | .06½ | .05¾ | .06½ | .05⅞ | .06½ |
| 60-62 400 endpoint | .06¼ | .06½ | .06¼ | | .06¼ | .06½ |
| 64-66 375 endpoint | .07⅛ | .07½ | .07⅛ | .07½ | .07¼ | .07½ |
| 68-70 360 endpoint | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 64-66 437 endpoint (blend) | .06¼ | | .06¼ | .06½ | .06½ | |
| **GULF COAST (Export)—** | | | | | | |
| 58-60 (U. S. Motor) | .08½ | | .08½ | | .08½ | |
| 60-62 400 endpoint | .09½ | | .09½ | | .09½ | |
| 61-63 390 endpoint | .09¾ | | .09¾ | | .09¾ | |
| 64-66 375 endpoint | .10 | | .10 | | .10 | |

*Louisiana, Arkansas, Mississippi and East Texas delivery.

## NATURAL GASOLINE

| OKLAHOMA (Group 3)— | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| Grade A, 72-79.9, 375 e.p., rec. 90% | .05½ | .05¾ | .05⅝ | .05¾ | .05⅝ | .05¾ |
| Grade AA, 80-87.9, 375 e.p., rec. 90% | .05¼ | | .05 | .05¼ | .05¼ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .04⅜ | .04½ | .04¼ | | .04¼ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .04¼ | | .04¼ | | .04½ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .04 | .04⅛ | .04 | | .04⅛ | .04¼ |
| **NORTH TEXAS—** | | | | | | |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .05½ | .05¾ | .05⅝ | .05¾ | .05½ | .05¾ |
| Grade AA, 80-87.9, 375 e.p., rec. 90% | .05¼ | | .05 | .05¼ | .05¼ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .04⅜ | .04½ | .04¼ | | .04½ | |
| Grade BB, 84-92, 375 e.p., rec. 85% | .04¼ | | .04 | .04⅛ | .04¼ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .04 | .04⅛ | .04 | | .04⅛ | .04¼ |
| **NORTH LOUISIANA—** | | | | | | |
| Grade AA, 80-87, 375 e.p., rec. 90% | .05½ | | .05½ | | .05¾ | |
| Grade BB, 84-92, 375 e.p., rec. 85% | .04½ | | .04½ | | .04¾ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .04¼ | .04½ | .04½ | | .04½ | .04¾ |
| **CALIFORNIA—** | | | | | | |
| 75-78 375-390 endpoint | .08½ | .09 | .08½ | .09 | .08½ | .09 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .05¾ | | .05¾ | | .05½ | .05¾ |
| Grade AA, 80-87, 375 e.p., rec. 90% | .05¼ | | .05 | .05¼ | .05¼ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .04¼ | | .04½ | | .04½ | |
| Grade BB, 84-92, 375 e.p., rec. 85% | .04 | .04⅛ | .04⅛ | .04¼ | .04¼ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .04 | | .04 | .04⅛ | .04 | .04⅛ |

## BURNING OIL

| OKLAHOMA (Group 3)— | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| 41-43 water white kerosene | .04 | .04¼ | .04 | .04¼ | .04 | .04¼ |
| 42-44 water white kerosene | .04¼ | .04½ | .04¼ | .04½ | .04⅜ | .04⅝ |
| **NORTH TEXAS—** | | | | | | |
| 41-43 water white kerosene | .04 | | .04 | | .04 | |
| 40-42 water white kerosene | .03⅞ | .04 | .03⅞ | .04 | .03⅞ | .04 |
| ***NORTH LOUISIANA—** | | | | | | |
| 41-43 water white kerosene | .05 | | .05 | | .05 | .05¼ |
| ***ARKANSAS—** | | | | | | |
| 41-43 water white kerosene | .05 | | .05 | | .05 | |
| **PENNSYLVANIA—** | | | | | | |
| 43 Kerosene prime white | .05½ | .05¾ | .05¾ | .06 | .05¾ | .06 |
| 45 Kerosene water white | .05¾ | .06 | .06 | .06¼ | .06 | .06¼ |
| 46 Kerosene water white | .06¼ | .06½ | .06½ | .06¾ | .06¾ | .06⅞ |
| 47 Kerosene water white | .06¼ | .06½ | .06½ | .06¾ | .06¾ | .07 |
| 300 Mineral Seal | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| **CALIFORNIA—** | | | | | | |
| 38-40 water white Kero. (high burning test) | .05 | .05½ | .05 | .05½ | .05 | .05½ |
| Engine distillate, 43-44, 445 endpoint | .07 | .07½ | .07 | .07½ | .07 | .07½ |
| Engine distillate, 42-44, 480 endpoint | .06¾ | .07¼ | .06¾ | .07¼ | .06¾ | .07¼ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 41-43 water white kerosene | .04 | .04¼ | .04 | .04¼ | .04 | .04¼ |
| 42-44 water white kerosene | .04¼ | .04¾ | .04¼ | .04¾ | .04¼ | .04½ |
| **GULF COAST (Export)—** | | | | | | |
| 41-43 prime white | .07 | | .07 | | .07 | |
| 41-43 water white | .08 | | .08 | | .08 | |

*Louisiana, Arkansas, Mississippi and East Texas delivery.

## FUEL OIL

| OKLAHOMA (Group 3)— | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| Below 18 Fuel Oil, per bbl. | .70 | .80 | .70 | .80 | .70 | .80 |
| 18-22 Fuel Oil | .75 | .85 | .75 | .85 | .75 | .85 |
| 20-22 Fuel Oil, per bbl. | .85 | | .85 | | .85 | |
| 22-26 Fuel Oil, per bbl. | .85 | .90 | .85 | .95 | .85 | .90 |
| 24-26 Fuel Oil, per bbl. | .90 | .95 | .95 | 1.00 | .90 | 1.00 |
| 26-30 Fuel Oil, per bbl. | .95 | 1.05 | 1.00 | 1.05 | 1.00 | 1.05 |
| 28-30 Fuel Oil, per bbl. (industrial) | 1.05 | 1.15 | 1.10 | 1.20 | 1.15 | 1.20 |
| 32-36 Gas Oil (industrial) | .02¾ | .02⅞ | .02¾ | .03 | .02¾ | .03 |
| 32-36 Gas Oil (straw color) | .03 | .03⅛ | .03⅛ | .03¼ | .03⅛ | .03¼ |
| 36-38 Distillate | .03¼ | .03⅜ | .03¼ | .03⅜ | .03¼ | .03½ |
| 38-40 Straw Distillate | .03⅜ | .03¾ | .03⅜ | .03¾ | .03½ | .03¾ |
| **NORTH TEXAS—** | | | | | | |
| Below 20 Fuel Oil, per bbl. | .60 | .65 | .60 | .65 | .60 | .65 |
| 24-26 Fuel Oil, per bbl. | .80 | .90 | .85 | .90 | .85 | .90 |
| 32-36 Gas Oil (straw) | .02½ | .02¾ | .02⅝ | .02¾ | .02⅝ | .02¾ |
| 38-40 Straw Distillate | .03⅛ | .03⅜ | .03⅜ | .03½ | .03⅜ | .03½ |
| ***NORTH LOUISIANA—** | | | | | | |
| 18-20 Fuel Oil, per bbl. | .85 | .90 | .85 | .90 | .80 | .85 |
| 30-32 Gas Oil | .03 | .03½ | .03¼ | .03½ | .03¼ | .03½ |
| ***ARKANSAS—** | | | | | | |
| 33-36 Distillate | .03¼ | .03¾ | .03⅝ | .04 | .03⅝ | .04 |
| 30-32 Gas Oil | .03 | .03¼ | .03¼ | .03½ | .03¼ | .03½ |
| 16-22 Refinery Fuel Oil, per bbl. | .85 | .90 | .85 | .90 | .80 | .85 |
| **GULF COAST (South Texas)—** | | | | | | |
| Gas Oil | .03¾ | .04 | .03¾ | .04 | .03¾ | .04 |
| Bunker C Fuel (cargo lots), per bbl. | .65 | .70 | .65 | .70 | .65 | .70 |
| Bunker C Fuel (small lots) | .95 | 1.00 | .95 | 1.00 | 1.00 | 1.05 |
| **PENNSYLVANIA—** | | | | | | |
| 30-34 Fuel Oil | .04½ | .04¾ | .04½ | .04¾ | .04½ | .04¾ |
| 36-40 Fuel Oil | .04¾ | | .04¾ | .05 | .04¾ | .05 |
| **CALIFORNIA—** | | | | | | |
| 33-36 Distillate | .03½ | .04 | .03½ | .04 | .03½ | .04 |
| 26-32 Distillate | .02 | .02½ | .02 | .02½ | .02 | .02½ |
| 15-20 Fuel Oil, Bunker (at tidewater) | .70 | .80 | .70 | .80 | .70 | .80 |
| 15-20 Fuel Oil (cargo lots), per bbl. | .60 | .75 | .60 | .75 | .60 | .75 |
| 27 plus Diesel, per bbl. | .90 | 1.05 | .90 | 1.05 | .90 | 1.05 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 22-26 Fuel Oil, per bbl. | .90 | .95 | .90 | .95 | .90 | .95 |
| 18-22 Fuel Oil, per bbl. | .77½ | .85 | .82½ | .85 | .82½ | .85 |
| 28-30 Fuel Oil, per bbl. | 1.12½ | 1.20 | 1.12½ | 1.20 | 1.12½ | 1.20 |
| 32-36 Gas Oil (zero) | .03⅛ | .03⅜ | .03⅛ | .03⅜ | .03⅛ | .03⅜ |
| 32-36 Gas Oil (industrial) | .02½ | .02⅝ | .02⅝ | .02⅞ | .02⅝ | .02⅞ |
| 36-38 Distillate | .03 | .03¼ | .03½ | .03⅝ | .03½ | .03⅝ |
| 38-40 Straw Distillate | .03¼ | .03½ | .03⅝ | .03¾ | .03⅝ | .03¾ |

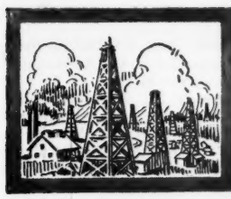
*Louisiana, Arkansas, Mississippi and East Texas delivery.

## LUBRICATING OIL AND WAX

| OKLAHOMA (Group 3)— | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| 100 vis., 2 color, 20-25 cold test | .06¾ | .07 | .06¾ | .07 | .06¾ | .07 |
| 100 vis., 3 color, 20-25 cold test | .05¾ | .06 | .05¾ | .06 | .05¾ | .06 |
| 150 vis., 3 color, 20-25 cold test | .08¼ | .08½ | .08¼ | .08½ | .08¾ | .08½ |
| 150 vis., 4 color, 20-25 cold test | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 180 vis., 3 color, 23-28 cold test | .09¾ | .10 | .09¾ | .10 | .09¾ | .10 |
| 180 vis., 4 color, 23-28 cold test | .09¼ | .09½ | .09¼ | .09½ | .09¼ | .09½ |
| 180 vis., 5 color, 23-28 cold test | .09 | .09¼ | .09 | .09¼ | .09 | .09¼ |
| 200 vis., 3 color, 23-28 cold test | .10¾ | .11 | .10¾ | .11 | .10¾ | .11 |
| 200 vis., 4 color, 23-28 cold test | .10¼ | .10½ | .10¼ | .10½ | .10¼ | .10½ |
| 200 vis., 5 color, 23-28 cold test | .09¾ | .10 | .09¾ | .10 | .09¾ | .10 |
| 240 vis., 3 color, 25-30 cold test | .14¼ | .14½ | .14¼ | .14½ | .14¼ | .14½ |
| 240 vis., 4 color, 25-30 cold test | .13¼ | .13½ | .13¼ | .13½ | .13¼ | .13½ |
| 240 vis., 5 color, 25-30 cold test | .12¾ | .13 | .12¾ | .13 | .12¾ | .13 |
| 280 vis., 3 color, 25-30 cold test | .16¾ | .17 | .16¾ | .17 | .16¾ | .17 |
| 280 vis., 4 color, 25-30 cold test | .15¾ | .16 | .15¾ | .16 | .15¾ | .16 |
| 280 vis., 5 color, 25-30 cold test | .14¾ | .15 | .14¾ | .15 | .14¾ | .15 |
| Cylinder Stocks: | | | | | | |
| 600, steam refined, light green | .10 | .12 | .10 | .12 | .10 | .12 |
| 600, steam refined, dark green | .09 | .11 | .09 | .11 | .09 | .11 |
| 190-200 vis., D color Bright Stock | .41 | .42 | .41 | .42 | .41 | .42 |
| 150-160 vis., D color Bright Stock | .37 | | .37 | | .37 | |
| 150-160 vis., E color Bright Stock | .32 | .35 | .32 | .35 | .32 | .35 |
| Waxes: | | | | | | |
| 124-126 White Crude Scale Wax | .02½ | .02⅝ | .02½ | .02⅝ | .02½ | .02⅝ |
| **PENNSYLVANIA—** | | | | | | |
| 34 Neutral | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07¾ |
| 34 Sundebloom | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07¾ |
| 36 Miners' Neutral | .07¼ | .07½ | .07¼ | .07½ | .07¼ | .07½ |
| 150, 3 color | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| 180, 3 color | .21½ | .22 | .21½ | .22 | .21½ | .22 |
| 200, 3 color | .24½ | .25 | .24½ | .25 | .24½ | .25 |
| 220, 3 color | .29½ | .30 | .29½ | .30 | .28½ | .29 |
| 600, steam refined | .22½ | .23 | .22½ | .23 | .22½ | .23 |
| 635, steam refined | .28½ | .29 | .28½ | .29 | .28½ | .29 |
| 650, steam refined | .29½ | .30 | .29½ | .30 | .29½ | .30 |
| 600, Pennsylvania Flash | .30½ | .31 | .30½ | .31 | .29½ | .30 |
| 630, Pennsylvania Flash | .34½ | .35 | .34½ | .35 | .34½ | .35 |
| 600, E filtered | .30½ | .31 | .30½ | .31 | .30½ | .31 |
| 600, D filtered | .34½ | .35 | .34½ | .35 | .34½ | .35 |
| Pennsylvania Bright Stocks | .42 | | .41 | .42 | .41 | .42 |
| *122-124 White Crude Scale Wax | .03⅛ | | .03 | .03⅛ | .03 | .03⅛ |
| *124-126 White Crude Scale Wax | .03¼ | | .03⅛ | .03¼ | .03⅛ | .03¼ |

*At New York.

| GULF COAST (South Texas)— | | | | | | |
|---|---|---|---|---|---|---|
| No. 2 color, 100 vis., pale oil | .06¼ | .06½ | .06¼ | .06½ | .06 | .06½ |
| No. 3 color, 200 vis., pale oil | .09¼ | .09½ | .09¼ | .09½ | .08½ | 09 |
| No. 3 color, 300 vis., pale oil | .10¾ | .11 | .10¾ | .11 | .09¾ | .10 |
| No. 3½ color, 500 vis., pale oil | .11½ | .12 | .11½ | .12 | .11 | .11½ |
| No. 4 color, 750 vis., pale oil | .13¼ | .13½ | .13¼ | .13½ | .12 | .13 |
| No. 5 to 6 color, 200 vis., red oil | .08½ | .08¾ | .08½ | .08¾ | .07 | .08 |
| No. 5 to 6 color, 300 vis., red oil | .09½ | .10 | .09½ | .10 | .08½ | .09 |
| No. 5 to 6 color, 500 vis., red oil | .10¾ | .11¼ | .10¾ | .11¼ | .09 | .10 |
| No. 5 to 6 color, 750 vis., red oil | .12¾ | .13 | .12¾ | .13 | .11½ | .12½ |
| No. 2½ color, 200 vis., pale filtered | .11 | .12 | .11 | .12 | .11 | .12 |
| No. 2½ color, 300 vis., pale filtered | .12 | .13 | .12 | .13 | .12 | .13 |
| No. 2½ color, 500 vis., pale filtered | .14½ | .15 | .14½ | .15 | .14½ | .15 |
| No. 2½-3 color, 750 vis., pale filtered | .17 | .19 | .17 | .19 | .17 | .19 |



# REFINERY AND CRUDE PRICES

**Quotations on refined products are for interstate or export movement unless otherwise noted.**

| | | | | | | |
|---|---|---|---|---|---|---|
| **CALIFORNIA—** | | | | | | |
| 130 vis., 2½-3 color | .10¼ | .10½ | .10¼ | .10½ | .10¼ | .10½ |
| 200 vis., 2½-3 color | .11½ | .11¾ | .11½ | .11¾ | .11½ | .11¾ |
| 300 vis., 3-3½ color | .13 | .13½ | .13 | .13½ | .13 | .13½ |
| 350 vis., 3½-4 color | .13½ | .13¾ | .13½ | .13¾ | .13½ | .13¾ |
| 400 vis., 3½-4 color | .15 | .15½ | .15 | .15½ | .15 | .15½ |
| Red Neutral: | | | | | | |
| 200 vis., 4½-5 color | .11 | .11¼ | .11 | .11¼ | .11 | .11¼ |
| 300 vis., 5-6 color | .12 | .12¼ | .12 | .12¼ | .12 | .12¼ |
| 400 vis., 5-6 color | .13¼ | .14 | .13¼ | .14 | .13¼ | .14 |
| 500 vis., 4½-5 color | .14¼ | .15½ | .14¼ | .15½ | .14¼ | .15½ |
| 500 vis., 5-6½ color | .15 | .15¼ | .15 | .15¼ | .15 | .15¼ |
| 600 vis., 6½ plus color | .16 | .16¼ | .16 | .16¼ | .16 | .16¼ |

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

## NEW YORK (BAYONNE) REFINERY PRICES

| | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| Gasoline, U. S. Motor, 58-60, 437 | .08⅝ | .08¾ | .08⅝ | .08¾ | .08⅝ | .08¾ |
| Kerosene, water white, 41-43 | .07¾ | | .07¾ | | .07¾ | |
| *Fuel Oil, Bunker "C," 14-16, per bbl. | 1.05 | | 1.05 | | 1.05 | |
| †Fuel Oil, Diesel, 28-30, per bbl. | 2.00 | | 2.00 | | 2.00 | |
| Gas Oil, 32-36 gravity | .04¾ | .05¼ | .04¾ | .05¼ | .04¾ | .05¼ |
| 25 pale Paraffin Oil | .10½ | | .10½ | | .10½ | |
| 28 pale Paraffin Oil | .07¼ | | .07¼ | | .07¼ | |
| 285 red Paraffin Oil | .12½ | | .12½ | | .12½ | |
| 250 red Paraffin Oil | .11½ | | .11½ | | .11½ | |
| 225 red Paraffin Oil | .10 | | .10 | | .10 | |
| 200 red Paraffin Oil | .09¼ | | .09¼ | | .09¼ | |
| Refined Wax: | | | | | | |
| 120-122 a.m.p., per lb. | .03⅞ | | .03⅞ | | .03¾ | |
| 125-127 a.m.p., per lb. | .04⅛ | | .04⅛ | | .04⅛ | |
| 130-132 a.m.p., per lb. | .04⅝ | | .04⅝ | | .04½ | |
| 133-135 am.p., per lb. | .05¾ | | .05¾ | | .05¾ | |
| 135-137 a.m.p., per lb. | .05⅞ | | .05⅞ | | .05⅞ | |
| Petrolatum in barrels, carload lots, per pound: | | | | | | |
| Dark Green | .01⅞ | | .01⅞ | | .01⅞ | |
| Amber | .03⅜ | | .03⅜ | | .03⅜ | |
| Extra Amber | .03½ | | .03½ | | .03½ | |
| Cream | .06⅜ | | .06⅜ | | .06⅜ | |
| Lily White | .07 | | .07 | | .07 | |
| Snow White | .08⅜ | | .08⅜ | | .08⅜ | |

*Lighterage 5.0 cents a barrel extra.

## NEW YORK (BAYONNE) EXPORT PRICES

| | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| Kerosene, prime white | .07¾ | | .07¾ | | .07¾ | |
| Kerosene, water white | .09 | | .09 | | .09 | |
| 600, steam refined cylinder stocks, in bbls. | .30 | .31 | .30 | .31 | .31 | |
| 635, steam refined | .32 | .33 | .32 | .33 | .33 | |
| 650, steam refined | .36 | .37 | .36 | .37 | .37 | |
| 600, Pennsylvania Flash | .40 | | .40 | | .40 | |
| 630, Pennsylvania Flash | .43 | | .43 | | .43 | |
| 600, Warren E | .39½ | | .39½ | | .39½ | |
| 600, Oil City E | .38½ | | .38½ | | .38½ | |
| Light 140-150 Bright Stocks | .49½ | .50 | .49½ | .50 | .50 | .51 |
| Dark 140-150 Bright Stocks | .48½ | .49 | .48½ | .49 | .49 | .50 |

## LOS ANGELES EXPORT PRICES

| | Feb. 11 | | Feb. 4 | | Jan. 28 | |
|---|---|---|---|---|---|---|
| Kerosene, water white | .04½ | .05 | .04½ | .05 | .04½ | .05 |
| U. S. Motor Gasoline, 53-55, 437 e.p. | .06¼ | .06¾ | .06¼ | .06¾ | .06¼ | .06¾ |

## CRUDE OIL PRICES

### OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posts all oil 40 gravity and above at $1.65 on November 24.

Corsicana heavy (Jan. 16, 1930)*.....$ .70

Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

### TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

### WEST TEXAS

Iatan*.....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler and Mitchell.....See gravity table, column 3

Howard and Glasscock .....See gravity table, column 11

Chalk† .....$ .65

*Includes Westbrook Field.
†Posted by Humble Oil & Refining Co.

### ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) .....$ .85

Smackover, 24 gravity and above (May 20, 1929) ..... 1.00

Cotton Valley, below 36 gravity (Jan. 17, 1930) ..... .80

Bellevue (Jan. 17, 1930) ..... 1.05

Urania (May 21, 1929) ..... 1.10

East El Dorado (May 22, 1929) ..... .85

Other fields.....See gravity table

Cotton Valley crude about 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

### GULF COAST

Grade A (Jan. 15, 1930)*.....$1.05

Grade B.....See gravity table

Jennings, La. (Jan. 15, 1930)† ..... 1.00

Refugio (Jan. 20, 1930)‡..... .55

Sorrento (Jan. 15, 1930)‡ ..... 1.00

Markham (Jan. 15, 1930)§..... .75

High Island (Jan. 15, 1930)¶..... .85

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Pipe Line Co. ¶Posted by Gulf Coast Pipe Line Co.

### ROCKY MOUNTAIN STATES

**Ohio Oil Co.-Midwest Refining Co.**
(Effective May 21, 1929)

Rock Creek, Wyo. .....$1.40

Salt Creek .....See gravity table

Big Muddy .....$1.43

Grass Creek, heavy (July 27, 1928) .. .90

Grass Creek, light ..... 1.65

Mule Creek ..... 1.20

Elk Basin ..... 1.55

Lance Creek ..... 1.68

Poison Spider (March 14, 1927)..... 1.00

Notches (March 14, 1927) ..... .65

Rex Lake (February 22) ..... 1.10

Osage ..... 1.65

Lost Soldier (contract, May 22) ..... 1.05

Hamilton Dome (March 14, 1927) .... .85

Pedro ..... 1.25

Greybull ..... 1.65

Four Bear ..... .85

Cat Creek (Montana) (July 27, 1928)... 1.15

Sunburst (Montana) (May 23, 1929)... 1.75

Torchlight ..... 1.65

Hogback (New Mexico) ..... 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

### SOUTH CENTRAL AND SOUTH-WESTERN TEXAS

Darst Creek (Jan. 15, 1930)*.....$1.05

Luling (Jan. 16, 1930)*..... .75

Mirando (Jan. 15, 1930)†..... .75

(Continued on Page 136)

## CRUDE OIL GRAVITY TABLE

| Gravity— | Okla., Kans., N. C. Texas | No. La. and Arkansas | Crane, Upton, Crockett, Winkler, Pecos, Mitchell, (West Texas) Lea, N. Mex. | Stephens, Ark. | Wheeler (Texas Panhandle) | Gray County (Texas Panhandle) | Carson and Hutchinson (Texas Panhandle) | Salt Creek, Wyo. | Grade B and Light Crude (G. Coast | Somerset (South Central Texas) | Howard and Glasscock, W. Tex. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 24 and above | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Below 24 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Below 25 | .85 | .... | .55 | .... | .... | .... | .... | .... | .90 | .... | .55 |
| 25 to 25.9 | .90 | .... | .58 | .... | .... | .... | .... | .... | .93 | .... | .58 |
| 26 to 26.9 | .95 | .. | .61 | .... | .... | .... | .... | .... | .96 | .... | .61 |
| 27 to 27.9 | 1.00 | .. | .64 | .... | .... | .... | .... | .... | .99 | .... | .64 |
| Below 28 | .... | .78 | .... | .90 | .70 | .69 | .72 | .... | .... | .... | .... |
| 28 to 28.9 | 1.05 | .84 | .67 | .94 | .70 | .69 | .72 | .... | 1.02 | .... | .66 |
| 29 to 29.9 | 1.10 | .90 | .70 | .98 | .70 | .75 | .72 | 1.10 | 1.05 | .... | .68 |
| 30 to 30.9 | 1.15 | .96 | .73 | 1.02 | .76 | .81 | .72 | 1.15 | 1.08 | .... | .70 |
| 31 to 31.9 | 1.20 | 1.02 | .76 | 1.06 | .82 | .87 | .72 | 1.20 | 1.11 | .... | .72 |
| 32 to 32.9 | 1.25 | 1.08 | .79 | 1.10 | .88 | .93 | .78 | 1.25 | 1.14 | 1.05 | .74 |
| 33 to 33.9 | 1.30 | 1.11 | .82 | .... | .91 | .96 | .81 | 1.30 | 1.17 | 1.07 | .76 |
| 34 to 34.9 | 1.35 | 1.14 | .85 | .... | .94 | .99 | .84 | 1.35 | 1.20 | 1.09 | .78 |
| 35 to 35.9 | 1.40 | 1.17 | .88 | .... | .97 | 1.02 | .87 | 1.40 | 1.23 | 1.11 | .80 |
| 36 to 36.9 | 1.45 | 1.20 | .91 | .... | 1.00 | 1.05 | .90 | 1.45 | .... | 1.13 | .82 |
| 37 to 37.9 | 1.50 | 1.23 | .... | .... | 1.03 | 1.08 | .93 | 1.50 | .... | 1.15 | .... |
| 38 to 38.9 | 1.55 | 1.26 | .... | .... | 1.06 | 1.11 | .96 | .... | .... | 1.17 | .... |
| 39 to 39.9 | 1.60 | 1.29 | .. | .. | 1.09 | 1.14 | .99 | .... | .... | .... | .... |
| 40 to 40.9 | 1.65 | 1.32 | .... | .. | 1.12 | 1.17 | 1.02 | .... | .... | .... | .... |
| 41 to 41.9 | 1.70 | 1.35 | .... | .. | 1.15 | 1.20 | 1.05 | .... | .... | .... | .... |
| 42 to 42.9 | 1.75 | 1.38 | .... | .... | 1.18 | 1.23 | 1.08 | .... | .... | .... | .... |
| 43 to 43.9 | 1.80 | 1.41 | .... | .... | 1.21 | 1.26 | 1.11 | .... | .... | .... | .... |
| 44 and above | 1.85 | 1.44 | .. | .... | 1.24 | 1.29 | 1.14 | .... | .... | .... | .... |

Column 1. Note—Above prices still observed by Prairie Oil & Gas Co., Sinclair Oil & Gas Co. and Gypsy Oil Co., as established May 20, 1929. On January 15, 1930, Humble Oil & Refining Co. posted North Central Texas crude at following prices: Below 25 gravity 60 cents; a 6-cent differential added per degree to 32-32.9 gravity at $1.08 and a 3-cent differential above making 44 gravity and above at $1.44. The Carter Oil Co. posted this schedule for Oklahoma and Kansas, January 16. Same date Magnolia posted these prices in North Central Texas. On January 17, Magnolia posted the schedule for Oklahoma and Kansas.

North Central Texas—Includes Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran Counties.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only). Texas Pipe Line Co., January 15, 1930. Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., January 16, 1930.

Column 3—Humble Oil & Refining Co., January 15, 1930, and Magnolia Petroleum Co., January 16, 1930.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., January 15, 1930, and Magnolia Petroleum Co., January 16, 1930.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., January 15, 1930 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

Column 11—Humble Oil & Refining Co., January 15, 1930, Magnolia posted Howard-Glasscock crude same schedule as West Texas, January 16, 1930.

## CALIFORNIA CRUDE OIL PRICES

**Standard Oil Co.-Union Oil Co. (Effective January 18, 1929)**

| Gravity— | Salt Lake, Newport, Summerland, Lawndale, Los Angeles Fullerton, Richfield, Olinda-Brea Alamitos, Huntington Beach, Signal Hill (Nov. 8) Athens, Inglewood, Rosecrans-Dominguez, Watsonville | Whittier, La Habra, [12]Coyote Hills | Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills | Montebello | Santa Fe Springs (Nov. 8) | Santa Maria, Coalinga | Wheeler Ridge Fruitvale | Orcutt, Ventura, Rincon | Ventura Ave. (Nov. 8) | Elwood Terrace | Seal Beach (Nov. 4) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | [12] | [3] | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 14 to 14.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .55 | .70 | .... | .70 |
| 15 to 15.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .... | .70 |
| 16 to 16.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .... | .70 |
| 17 to 17.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .... | .70 |
| 18 to 18.9 | .75 | .75 | .56 | .70 | .... | .56 | .56 | .70 | .75 | .... | .75 |
| 19 to 19.9 | .80 | .80 | .62 | .75 | .... | .62 | .62 | .70 | .80 | .... | .80 |
| 20 to 20.9 | .85 | .84 | .68 | .80 | .... | .68 | .68 | .70 | .85 | .... | .85 |
| 21 to 21.9 | .89 | .88 | .74 | .85 | .89 | .74 | .74 | .86 | .86 | .... | .89 |
| 22 to 22.9 | .93 | .91 | .80 | .90 | .92 | .80 | .80 | .87 | .87 | .... | .93 |
| 23 to 23.9 | .97 | .94 | .85 | .95 | .95 | .85 | .85 | .90 | .90 | .... | .97 |
| 24 to 24.9 | 1.01 | .97 | .90 | .98 | .98 | .88 | .88 | .94 | .94 | .... | 1.01 |
| 25 to 25.9 | 1.05 | 1.00 | .95 | 1.01 | 1.01 | .91 | .91 | .98 | .98 | .... | 1.05 |
| 26 to 26.9 | 1.09 | 1.04 | 1.00 | 1.04 | 1.04 | .94 | .94 | 1.02 | 1.02 | .... | 1.09 |
| 27 to 27.9 | 1.13 | 1.08 | 1.05 | 1.07 | 1.07 | .98 | .97 | .... | 1.06 | .... | 1.13 |
| 28 to 28.9 | 1.17 | 1.12 | 1.10 | 1.10 | 1.10 | 1.02 | .... | .... | 1.10 | .... | 1.17 |
| 29 to 29.9 | 1.21 | 1.16 | 1.16 | 1.13 | 1.15 | 1.06 | .... | .... | 1.14 | .... | 1.21 |
| 30 to 30.9 | 1.25 | 1.20 | 1.22 | 1.16 | 1.20 | 1.10 | .... | .... | 1.18 | .... | 1.25 |
| 31 to 31.9 | 1.30 | .... | 1.28 | .... | 1.25 | 1.14 | .... | .... | 1.23 | .... | 1.30 |
| 32 to 32.9 | 1.35 | .... | 1.34 | .... | 1.30 | 1.18 | .... | .... | 1.28 | .... | 1.35 |
| 33 to 33.9 | 1.41 | .... | 1.40 | .... | 1.35 | 1.22 | .... | .... | 1.34 | .... | .... |
| 34 to 34.9 | 1.47 | .... | 1.46 | .... | 1.40 | 1.26 | .... | .... | 1.40 | 1.16 | .... |
| 35 to 35.9 | 1.53 | .... | .... | .... | 1.45 | 1.30 | .... | .... | 1.46 | 1.22 | .... |
| 36 to 36.9 | 1.59 | .... | .... | .... | 1.50 | .... | .... | .... | 1.52 | 1.28 | .... |
| 37 to 37.9 | 1.65 | .... | .... | .... | 1.55 | .... | .... | .... | 1.58 | 1.34 | .... |
| 38 to 38.9 | 1.71 | .... | .... | .... | 1.60 | .... | .... | .... | 1.64 | 1.40 | .... |
| 39 to 39.9 | 1.77 | .. | .... | .... | 1.65 | .... | .... | .... | 1.70 | 1.46 | .... |
| 40 to 40.9 | 1.83 | .... | .... | .... | .... | .... | .... | .... | 1.76 | 1.52 | .... |
| 41 to 41.9 | 1.89 | .... | .... | .... | .... | .... | .... | .... | 1.82 | 1.58 | .... |
| 42 to 42.9 | 1.95 | .... | .... | .... | .... | .... | .... | .... | 1.88 | 1.64 | .... |

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents; 14 gravity and above 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

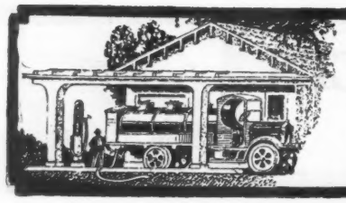
Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



# TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Feb. 11

## ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

### STANDARD OIL CO. (INDIANA)

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Chicago† | 17.0 | 18.0 | 3.0 | 13.0 |
| Decatur, Ill. | 19.2 | 20.2 | 3.0 | 13.1 |
| E. St. Louis | 18.4 | 19.4 | 3.0 | 12.2 |
| Joliet | 19.4 | 20.4 | 3.0 | 13.3 |
| Peoria | 19.2 | 20.2 | 3.0 | 13.1 |
| Quincy | 19.2 | 20.2 | 3.0 | 12.9 |
| Davenport, Ia. | 19.5 | 20.5 | 3.0 | 13.3 |
| Des Moines | 19.5 | 20.5 | 3.0 | 13.3 |
| Keokuk | 19.5 | 20.5 | 3.0 | 13.3 |
| Sioux City | 19.1 | 20.1 | 3.0 | 12.9 |
| Duluth, Minn. | 20.5 | 21.5 | 3.0 | 13.9 |
| Mankato | 20.1 | 21.1 | 3.0 | 13.7 |
| Minneapolis | 20.2 | 21.2 | 3.0 | 13.9 |
| LaCrosse, Wis. | 19.2 | 20.2 | 2.0 | 14.0 |
| Milwaukee | 18.1 | 19.1 | 2.0 | 12.9 |
| Madison | 18.3 | 19.3 | 2.0 | 13.1 |
| Detroit, Mich. | 18.8 | 18.8 | 3.0 | 14.7 |
| Grand Rapids | 19.7 | 20.7 | 3.0 | 14.6 |
| Saginaw | 19.9 | 20.9 | 3.0 | 14.8 |
| Evansville, Ind. | 20.0 | 21.0 | 4.0 | 14.0 |
| Fort Wayne | 20.4 | 21.4 | 4.0 | 14.4 |
| Indianapolis | 20.2 | 21.2 | 4.0 | 14.2 |
| South Bend | 20.4 | 21.4 | 4.0 | 14.4 |
| Fargo, N. D. | 21.9 | 22.9 | 3.0 | 15.9 |
| Huron, S. D. | 21.3 | 22.3 | 4.0 | 14.7 |
| Sioux Falls | 20.1 | 21.1 | 4.0 | 14.4 |
| K. C., Mo.* | 18.9 | 19.9 | 3.0 | 11.6 |
| Springfield* | 18.8 | 19.8 | 3.0 | 12.5 |
| St. Louis* | 17.9 | 18.9 | 2.5 | 12.3 |
| St. Joseph | 18.5 | 19.5 | 2.0 | 12.2 |
| Wichita, Kans. | 17.8 | 14.8 | 3.0 | 11.8 |
| Bartlesville, Ok. | 18.5 | 19.5 | 4.0 | 11.5 |

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

### NAPHTHA

| | Tank wagon | Tank car |
|---|---|---|
| Oleum spirits | 14.7 | 12.9 |
| V. M. & P. Naphtha | 16.7 | 13.9 |
| Cleaner's naphtha | 17.0 | 14.9 |
| Stanisol | 17.0 | 15.4 |

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

### STANOLIND FURNACE OIL IN CHICAGO

| | |
|---|---|
| Less than 100 gallons | 9.0 |
| 100 to 349 gallons | 8.0 |
| 850 gallons or more | 7.5 |

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

### SOUTHWESTERN DISTRICT

**Magnolia Petroleum Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Dallas, Tex. | 17.0 | 21.0 | 4.0 | 12.0 |
| Fort Worth | 17.0 | 20.0 | 4.0 | 12.0 |
| Houston | 15.0 | 19.0 | 4.0 | 11.0 |
| San Antonio | 15.0 | 19.0 | 4.0 | 11.0 |
| El Paso | 16.0 | 20.0 | 4.0 | 14.0 |
| Texarkana | 17.0 | 19.0 | 4.0 | 12.0 |
| Muskogee* | 13.0 | 15.0 | 4.0 | 10.0 |
| Okla. City* | 15.0 | 18.0 | 4.0 | 10.0 |
| Tulsa* | 15.0 | 19.0 | 4.0 | 10.0 |
| Ft. Smith, Ark. | 15.0 | 17.0 | 5.0 | 12.0 |
| Little Rock | 18.0 | 20.0 | 5.0 | 13.0 |

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

### ROCKY MOUNTAIN DISTRICT

**Continental Oil Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Denver, Colo. | 18.0 | 21.0 | 4.0 | 15.5 |
| Pueblo | 18.0 | 21.0 | 4.0 | 15.5 |
| Grand Junction | 22.0 | 25.0 | 4.0 | 19.0 |
| Casper, Wyo. | 18.0 | 21.0 | 4.0 | 14.0 |
| Cheyenne | 19.5 | 22.5 | 4.0 | 15.5 |
| Butte, Mont. | 23.5 | 26.5 | 5.0 | 20.0 |
| Helena | 23.5 | 26.5 | 5.0 | 20.0 |
| Salt Lake, Utah | 20.0 | 23.0 | 3.5 | 17.0 |
| Albu'que, N. M. | 20.0 | 22.0 | 5.0 | 17.0 |
| Boise, Idaho | 22.5 | 25.5 | 4.0 | 19.0 |
| Twin Falls | 22.5 | 25.5 | 4.0 | 19.0 |

### PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

**The Atlantic Refining Co.**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Pittsburgh, Pa. | 15.0 | *21.0 | ... | 13.0 |
| Philadelphia | 15.0 | *21.0 | ... | 13.0 |
| Scranton | 15.0 | *21.0 | ... | 13.0 |
| Allentown | 15.0 | *21.0 | ... | 13.0 |
| Altoona | 15.0 | *21.0 | ... | 13.0 |
| Erie | 15.0 | *19.0 | ... | 13.0 |
| Dover, Del. | 18.0 | 20.0 | 3.0 | 13.0 |
| Wilmington | 18.0 | 20.0 | 3.0 | 13.0 |
| Springf'd, Mass. | 16.0 | 18.0 | 2.0 | 15.0 |
| Worcester | 18.0 | 20.0 | 2.0 | 15.0 |
| Boston | 18.0 | 20.0 | 2.0 | 15.0 |
| Providence, R.I. | 18.0 | 20.0 | 2.0 | 13.0 |
| Hartford, Conn. | 18.0 | 20.0 | 2.0 | 15.0 |
| New Haven | 18.0 | 20.0 | 2.0 | 15.0 |

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

### NEW YORK AND PART OF NEW ENGLAND DISTRICT

**Standard Oil Co. (New York)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Albany, N. Y. | 17.6 | 19.6 | 2.0 | 14.6 |
| New York* | 16.3 | 17.3 | 2.0 | 13.3 |
| Buffalo | 16.8 | 17.8 | 2.0 | 13.8 |
| Rochester | 17.0 | 18.0 | 2.0 | 13.0 |
| Syracuse | 17.8 | 18.8 | 2.0 | 13.8 |
| Boston, Mass. | 16.5 | 17.5 | 2.0 | 12.5 |
| Augusta, Me. | 19.8 | 20.8 | 4.0 | 13.8 |
| Manch't'r, N. H. | 19.4 | 20.4 | 4.0 | 13.4 |
| Burlington, Vt. | 20.3 | 21.3 | 4.0 | 14.3 |

*Prices in steel barrels.

### SOUTHERN DISTRICT

**Standard Oil Co. (Kentucky)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Atlanta, Ga. | 20.0 | 21.0 | 4.0 | 15.5 |
| Augusta | 21.0 | 23.0 | 4.0 | 15.5 |
| Macon | 21.0 | 23.0 | 4.0 | 15.5 |
| Savannah | 20.0 | 22.0 | 4.0 | 14.0 |
| Birm'ham, Ala. | 17.0 | 19.0 | 4.0 | 13.0 |
| Mobile | 18.0 | 20.0 | 4.0 | 13.5 |
| Montgomery | 19.0 | 21.0 | 4.0 | 15.0 |
| Clarks'le, Miss. | 18.0 | 20.0 | 5.0 | 12.5 |
| Jackson | 19.0 | 21.0 | 5.0 | 13.0 |
| Natchez | 18.5 | 20.5 | 5.0 | 13.0 |
| Gulfport | 20.5 | 22.5 | 5.0 | 13.0 |
| Vicksburg | 18.5 | 20.5 | 5.0 | 13.0 |
| Jack'ville, Fla. | 20.0 | 24.0 | 6.0 | 14.0 |
| Miami | 21.0 | 23.0 | 6.0 | 14.0 |
| Pensacola | 18.0 | 20.0 | 6.0 | 13.5 |
| Tampa | 20.0 | 22.0 | 5.0 | 13.0 |
| Lexington, Ky. | 18.0 | 20.0 | 5.0 | 14.5 |
| Covington | 19.0 | 20.0 | 5.0 | 14.5 |
| Louisville | 19.0 | 21.0 | 5.0 | 13.0 |
| Ashland | 20.0 | 21.0 | 5.0 | 15.0 |
| Catlettsburg | 20.0 | 21.0 | 5.0 | 15.0 |

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

### PACIFIC COAST TERRITORY

**Standard Oil Co. (California)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| San Francisco | 20.0 | 23.0 | 3.0 | 15.5 |
| Los Angeles | 19.5 | 22.5 | 3.0 | 15.5 |
| Reno, Nev. | 25.0 | 28.0 | 4.0 | 19.0 |
| Portland, Ore. | 26.5 | 24.5 | 3.0 | 16.5 |
| Seattle, Wash. | 20.5 | 23.5 | 3.0 | 16.5 |
| Tacoma | 20.5 | 23.5 | 3.0 | 16.5 |
| Spokane | 24.5 | 27.5 | 3.0 | 20.5 |
| Phoenix, Ariz. | 18.0 | 22.0 | 4.0 | 20.0 |

### NEBRASKA

**Standard Oil Co. (Nebraska)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Omaha | 20.25 | 22.25 | 4.0 | 13.25 |
| McCook | 21.75 | 23.75 | 4.0 | 14.75 |
| Norfolk | 20.75 | 22.75 | 4.0 | 13.75 |
| N. Platte | 21.75 | 23.75 | 4.0 | 14.50 |
| Scottsbluff | 21.75 | 23.75 | 4.0 | 14.25 |

### ATLANTIC COAST DISTRICT

**Standard Oil Co. (New Jersey)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Atlantic City | 16.5 | 18.5 | 2.0 | 13.5 |
| Newark, N. J. | 15.5 | 17.5 | 2.0 | 12.5 |
| Annapolis, Md. | 18.0 | 20.0 | 4.0 | 13.0 |
| Baltimore | 17.2 | 19.2 | 4.0 | 10.5 |
| Cumberland | 19.0 | 21.0 | 4.0 | 14.0 |
| Washington | 15.7 | 17.7 | 2.0 | 12.7 |
| Danville, Va. | 19.8 | 21.8 | 5.0 | 13.8 |
| Norfolk | 18.3 | 20.3 | 5.0 | 11.0 |
| Petersburg | 19.3 | 21.3 | 5.0 | 13.3 |
| Roanoke | 20.0 | 22.0 | 5.0 | 14.0 |
| Richmond | 18.7 | 20.7 | 5.0 | 12.7 |
| Charles'n, W.Va. | 18.5 | 20.5 | 4.0 | 13.5 |
| Keyser | 19.1 | 21.1 | 4.0 | 14.1 |
| Parkersburg | 17.2 | 19.2 | 4.0 | 12.2 |
| Wheeling | 18.4 | 20.4 | 4.0 | 13.4 |
| Charlotte, N. C. | 20.3 | 22.0 | 5.0 | 14.3 |
| Hickory | 20.8 | 22.8 | 5.0 | 14.8 |
| Mt. Airy | 20.5 | 22.5 | 5.0 | 14.5 |
| Salisbury | 20.7 | 22.7 | 5.0 | 14.7 |
| Charleston, S.C. | 19.3 | 21.3 | 6.0 | 12.3 |
| Columbia | 21.2 | 23.2 | 6.0 | 14.2 |

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

### OHIO

**Standard Oil Co. (Ohio)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| Ohio points* | 18.0 | 19.0 | 4.0 | †12.0 |

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 14 cents.

### CENTRAL SOUTH DISTRICT

**Standard Oil Co. (Louisiana)**

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wagon | Service station | Incl'ds tax of | tank wagon |
| N. Orleans, La.* | 15.0 | 16.0 | 5.0 | 12.0 |
| Baton Rouge | 16.0 | 18.0 | 4.0 | 14.0 |
| Alexandria | 17.0 | 19.0 | 5.0 | 14.0 |
| Lafayette† | 18.0 | 20.0 | 5.0 | 14.0 |
| Lake Charles† | 18.0 | 20.0 | 5.0 | 14.0 |
| Shreveport | 16.0 | 18.0 | 4.0 | 14.0 |
| Knoxv'le, Tenn. | 20.0 | 22.0 | 5.0 | 16.0 |
| Memphis | 18.0 | 20.0 | 5.0 | 12.5 |
| Chattanooga | 20.0 | 22.0 | 5.0 | 13.0 |
| Nashville | 19.0 | 21.0 | 5.0 | 16.0 |
| Bristol | 19.0 | 20.0 | 5.0 | 14.0 |
| Lt. Rock, Ark. | 18.0 | 20.0 | 5.0 | 13.0 |

*Tax of 5 cents includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.
†Includes 1-cent parish tax.

### TANK WAGON CHANGES

Standard Oil Co. of Kentucky effective January 24 made general changes in its gasoline tank wagon and service station and kerosene tank wagon prices at most points throughout its entire territory. At some points prices were lowered and others advanced. Supplementing this action the company on February 3 advanced gasoline tank wagon and service station prices 1 cent at Augusta, Ga. On February 6 the gasoline service station price was reduced 2 cents at Jacksonville, Fla.

Standard Oil Co. of Indiana effective February 5 reduced gasoline service station prices 4 cents at Wichita, Kans. Same company effective February 7 reduced gasoline tank wagon 1 cent and service station 2 cents at Detroit, Mich.

Standard Oil Co. of Louisiana effective February 5 reduced kerosene tank wagon price 1 cent at New Orleans, La. Same company advanced gasoline service station price 1 cent at New Orleans on same date.

Continental Oil Co. effective February 8 reduced gasoline tank wagon and service station prices 2 cent in Montana, 1 cent in Wyoming, 1 cent in Colorado, 1 cent in Utah and 1 cent in southern Idaho. The price at Grand Junction, Colo., was reduced one-half cent and the subnormal service station price at Twin Falls, Idaho, was adjusted to normal spread of 3 cents above tank wagon.

### A.P.I STATISTICAL COMMITTEE

NEW YORK, Feb. 8.—The Statistical Advisory Committee of the American Petroleum Institute will meet at 11 a. m., Friday, February 21, at Institute headquarters for discussion of routine business. John D. Gill, of the Atlantic Refining Co., Philadelphia, will preside. Any person connected with the petroleum industry desiring to make suggestions for the betterment of statistical reports is invited to mail them in advance of the meeting to the secretary, Fred Van Covern, at Institute headquarters, 250 Park Avenue, New York.

### CRUDE PRICE CHANGES

Effective February 5, Joseph Seep Purchasing Agency announced following price changes: Pennsylvania grade oil in New York Transit Co. run prior to July 1, 1929, $2.95; run July 1 and after $3. Bradford oil in National Transit Co. lines prior to July 1, 1929, $2.95; run July 1 and after $3.

Effective February 7, Pure Oil Co. announced reduction of 25 cents in Mount Pleasant, Mich., crude oil.

## CRUDE OIL PRICES

(Continued from Page 135)

| | |
|---|---|
| Salt Flat (Jan. 15, 1930)§ | 1.05 |
| Rockdale Minerva (April 15): | |
| Below 28 gravity | 1.25 |
| 28-38.9 gravity | 1.27 |
| 39-39.9 gravity | 1.29 |
| 40 and above | 1.31 |
| Thrall‡ | ... |
| Callihan (May 15) | 1.75 |
| Lytton Springs (Lockhart) | See gravity table |
| Somerset | See gravity table |

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

### EASTERN STATES
**Joseph Seep Purchasing Agency**
(Effective October 1, 1929)

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines (New York) (Feb. 5, 1930)* | $3.00 |
| Bradford District Oil in National Transit Lines (Pennsylvania) (Feb. 5, 1930)* | 3.00 |
| Penna Grade Oil in National Transit Lines (Pennsylvania) | 3.05 |
| Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia) | 3.00 |
| Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania) | 2.90 |
| Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) | 2.70 |
| Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929) | 1.75 |
| Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929) | 1.70 |
| Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (May 22, 1929) | 1.80 |
| Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (Nov. 12, 1929) | 1.55 |
| Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) | .60 |
| Wayne district oil in Cumberland Pipe Lines | 1.42 |

*Oil run prior to July 1, 1929, $2.95.

### MIDDLE WESTERN STATES
**Ohio Oil Co.**
(Effective May 21, 1929)

| | |
|---|---|
| Lima | $1.80 |
| Wooster | 1.90 |
| Illinois | 1.75 |
| Indiana | 1.57 |
| Princeton | 1.75 |
| Plymouth | 1.28 |
| Waterloo (November 17, 1926) | 1.35 |
| Western Kentucky | 1.68 |
| Dundee, Mich. (Sept. 17, 1929)‖ | Same as Mid-Continent gravity scale |
| Upper and Lower Traverse sands, Mich.‖ | Same as Mid-Continent gravity scale |
| Midland, Mich. (Feb. 6, 1930)* | $1.25 |
| Saginaw, Mich., Saginaw sand (February 10)† | 1.89 |
| Saginaw, Mich., Berea sand (February 10)† | 1.79 |
| Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)† | 1.50 |
| Oil in line in Stoll Oil Refinery Co. in Oil City, Ky. (Jan. 20, 1930)§ | 1.55 |
| Oil Springs (Canada)¶ | 2.27 |
| Petrolia (Canada)¶ | 2.29 |

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

### MEXICAN CRUDE

| | |
|---|---|
| Panuco* | $ .95 |

*Based on November transactions for deliveries during December and January. Price exclusive of taxes.

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# Standard of Indiana Capital Increase

## Stockholders to Vote on Resolution for $50,000,000 Stock Increase on March 6. Humble's 1929 Earnings

Plans of future expansion of the Standard Oil Co. of Indiana were indicated when the directors voted to propose an increase of $50,000,000 in the capital stock. The increase, which must be authorized by the stockholders, will be submitted to them at the annual meeting at Whiting, Ind., on March 6.

"I am not prepared to discuss the possible uses of this stock in detail at the present time," said Edward G. Seubert, president.

In financial circles it is understood that plans are in the making for which the raising of the capital stock from 18,000,000 to 20,000,000 shares of $25 par value, or an increase in the capitalization from $450,000,000 to $500,000,000, is an essential feature. It was said it was advisable to authorize the stock increase now and avoid the necessity for a special meeting later in the year.

The official statement says that the increase is "to acquire property and for other corporate purposes as later developments may require."

Through another resolution a change in the date of the annual meeting from the first Thursday in March to the first Thursday in May is to be sought, to provide time for preparation of a consolidated balance sheet of the Indiana company and all associated and affiliated companies.

Election of directors for the coming year is scheduled for the meeting on March 6. Directors have declared the regular quarterly dividend of 62½ cents a share, payable on March 15 to stockholders of record at the close of business on February 15.

By proposing an increase in capital stock to 20,000,000 shares of $25 par value from 18,000,000 shares, says the Wall Street Journal, the directors of Standard Oil Co. of Indiana may be making provision for possible acquisition of ownership in Sinclair Pipe Line Co. and Sinclair Crude Oil Purchasing Co. In each of these companies the Indiana company and Sinclair Consolidated Oil Corp. now hold one-half interest.

"Preliminary steps have been taken by Sinclair with regard to a possible linking of Prairie Oil & Gas Co. with its organization. If such a consolidation should take place it would likely include Prairie Pipe Line Co., which has an extensive system in the Mid-Continent, reaching from the Great Lakes to the Gulf of Mexico, with Prairie Oil & Gas its principal shipper.

"It would be entirely logical in such a development for Sinclair to relinquish its holdings in the purchasing company and the Sinclair Pipe Line Co. to Standard Oil of Indiana, since all its requirements would be adequately met by the Prairie properties. From the standpoint of the Indiana company complete ownership of the Sinclair purchasing and pipe line organizations would be a desirable acquisition."

The last previous change in capital of Standard Oil of Indiana was made August 27, last year, when stockholders authorized an increase to 18,000,000 shares from 15,000,000 to provide for the Pan American Petroleum & Transport Co. exchange. Under terms of the offer, which expired last November 30, seven shares of Indiana were offered in exchange for six of Pan American. About 80 per cent of the stock of Pan American has been acquired, which will result in increasing the outstanding shares of Standard of Indiana to over 16,000,000.

### Union Oil

Book value of Union Oil Co. of California capital stock, including surplus, at the end of 1929 was approximately $42.58 a share. The regular quarterly cash dividend of 50 cents payable February 10 will reduce this figure to $42.08 and the 1 per cent stock dividend payable the same date will further reduce the book value to $41.66.

New York Stock Exchange has admitted to listing the additional 42,218 shares required for the stock dividend. Outstanding stock amounts to 4,215,953 shares, out of total authorized amount of 5,000,000 shares of $25 par value.

Statement of Union Oil Co. of California and subsidiaries as of September 30, 1929, shows total assets of $367,287,260 compared with $342,242,380 on December 31, 1928, and total surplus $73,936,352 against $64,103,834. Current assets totaled $67,914,683 and current liabilities $9,519,027 as contrasted with $56,793,188 and $11,465,632 respectively, on December 31, 1928.

### Standard Oil of Nebraska

Standard Oil Co. of Nebraska declared usual extra dividend of 25 cents and regular quarterly of 62½ cents, both payable March 20 to stock of record February 25.

### Cities Service

Directors of Cities Service Co., having withdrawn offering to stockholders of rights to subscribe for additional shares of common stock at $45 a share in ratio of one share for each 10 held, rights expiring November 30, 1929, committee on securities of New York Produce Ex-

## TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

**Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla.**

| 1930 High | 1930 Low | Week ended February 5 Sales | High | Low | Close | Stocks— | | Outstanding capital | Par value | Div. rate | Last paid | 1927 High | 1927 Low | 1928 High | 1928 Low | 1929 High | 1929 Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21⅞ | 18 | 1,700 | 20¼ | 20 | 20 | Amerada Corp. | (sh) | 922,075 | N.P. | 50cQ | 1-31-30 | 37⅝ | 27⅝ | 43⅞ | 27⅛ | 42⅝ | 17½ |
| 27⅛ | 20½ | 10,000 | 27⅛ | 23¼ | 26⅛ | American Republics Corp. | (sh) | 209,180 | N.P. | ..... | 3-20-29 | 82⅛ | 35⅛ | 85 | 51⅛ | 64¾ | 12½ |
| 37⅜ | 33½ | No sales. | | | | Associated Oil | | $57,260,300 | $25 | 50cQ | 12-31-29 | 50¼ | 35 | 53⅜ | 37½ | 47¼ | 34½ |
| 39⅝ | 36¼ | 8,300 | 39¼ | 38¼ | 39¼ | Atlantic Refining | | $50,000,000 | $25 | 25cQ | 12-16-29 | 131⅜ | 104 | 66⅜ | 50 | 77⅞ | 30 |
| 24¼ | 21⅝ | 4,800 | 23½ | 23⅛ | 23⅜ | Barnsdall Corp. | | $45,235,650 | $25 | 50cQ | 12- 7-29 | 35½ | 20¾ | 53 | 20 | 49⅛ | 20 |
| 23⅞ | 21⅛ | 5,700 | 23 | 22⅛ | 22¾ | Continental Oil of Delaware | (sh) | 4,741,554 | N.P. | ..... | 3-31-27 | .. | .. | .. | .. | 47⅛ | 18 |
| 54⅛ | 49⅛ | 2,700 | 54⅛ | 52¼ | 53¾ | General Asphalt | | $20,785,400 | N.P. | 50cQ | ..... | 96¾ | 65 | 94⅞ | 68 | 94¾ | 42¼ |
| 69⅜ | 52¼ | 22,900 | 69⅜ | 63¼ | 68½ | Houston Oil | | $25,000,000 | $100 | ..... | ..... | 175¾ | 60⅛ | 167 | 79 | 109 | 26 |
| 23½ | 21¼ | 700 | 22¼ | 21⅞ | 22 | Independent Oil & Gas | (sh) | 1,333,572 | N.P. | 50cQ | 1-31-30 | 32¾ | 17⅝ | 38⅜ | 21¾ | 39⅜ | 17¾ |
| 23¾ | 17¾ | 4,500 | 22⅞ | 22⅛ | 22⅛ | Indian Refining | | $12,307,370 | $10 | ..... | 5-31-24 | 12⅛ | 7⅝ | 39⅝ | 9 | 53 | 13⅛ |
| 22½ | 21¼ | 200 | 22 | 22 | 22 | Lago Oil & Transport | (sh) | 3,992,122 | N.P. | ..... | 5- 1-27 | 37¾ | 20½ | 39⅛ | 27⅜ | 38⅜ | 16½ |
| 9½ | 8½ | 900 | 9 | 8⅞ | 9 | Louisiana Oil Refining | (sh) | 1,190,063 | N.P. | ..... | ..... | 18⅛ | 10 | 19¾ | 9⅜ | 18 | 7 |
| 6¾ | 5⅛ | No sales. | | | | Maracaibo Oil | (sh) | 330,000 | N.P. | ..... | ..... | 22¾ | 12 | 25½ | 12½ | 18½ | 5⅛ |
| 21¾ | 16⅜ | 21,900 | 21⅜ | 20¼ | 21 | Mexican Seaboard | (sh) | 1,276,873 | N.P. | ..... | 12-15-20 | 9¼ | 3 | 73 | 4⅝ | 69⅜ | 9¼ |
| 28⅜ | 25 | 200 | 26 | 25⅝ | 25⅝ | Mid-Continent Petroleum | (sh) | 1,857,912 | N.P. | 50cQ | 12-15-29 | 39⅜ | 25½ | 44½ | 25⅛ | 39⅞ | 22⅛ |
| | | No sales. | | | | Middle States Oil | | $24,298,850 | $10 | ..... | 7- 1-23 | 3¾ | 1⅝ | 7⅜ | 2⅜ | 5⅛ | ⅜ |
| 60½ | 52 | No sales. | | | | Pan American P. & T. | | $50,084,700 | $50 | ..... | 10-20-27 | 65⅞ | 40⅛ | 54⅞ | 38¼ | 69 | 40½ |
| 60¼ | 50½ | 1,500 | 54 | 53 | 53¾ | Pan American P. & T. "B" | | $121,105,050 | $50 | ..... | 11-15-24 | 66⅜ | 40¼ | 58⅞ | 37¾ | 69¼ | 40½ |
| | | No sales. | | | | Pan American Western "B" | (sh) | 400,000 | N.P. | ..... | 1-30-27 | 37⅞ | 16¾ | 28⅜ | 15½ | 18½ | 13⅝ |
| 5⅜ | 4⅝ | 200 | 5 | 5 | 5 | Panhandle P. & R. | (sh) | 199,370 | N.P. | ..... | ..... | 18⅞ | 8 | 21¾ | 11½ | 15¼ | 3 |
| 47½ | 47½ | No sales. | | | | Panhandle P. & R. pfd. | | $2,564,400 | $100 | ..... | 7- 2-23 | 83 | 54 | 108 | 70 | 76 | 47½ |
| 35 | 31⅛ | 1,300 | 34 | 33½ | 34 | Phillips Petroleum | (sh) | 2,406,796 | N.P. | 50cQ | 1- 2-30 | 60¼ | 36¼ | 53⅞ | 35¼ | 47 | 24¼ |
| 1¼ | 1 | 600 | 1⅛ | 1 | 1 | Pierce Oil Corp. | | $29,622,831 | $25 | ..... | ..... | 1⅛ | ½ | 5¼ | ½ | 3⅜ | 1 |
| 3 | 2¼ | 400 | 2½ | 2½ | 2½ | Pierce Petroleum | (sh) | 2,500,000 | N.P. | ..... | ..... | 5½ | 2½ | 7 | 3½ | 5⅞ | ½ |
| 52¼ | 48½ | 700 | 52 | 52 | 52 | Prairie Oil & Gas | | $61,720,125 | $25 | 50cQ* | 12-31-29 | 55½ | 45⅝ | 68 | 46 | 65⅝ | 40½ |
| 60 | 58 | 500 | 60 | 59½ | 59⅞ | Prairie Pipe Line | | $101,250,000 | $25 | 75cQ† | 12-31-29 | 190 | 130¾ | 280 | 172 | 65 | 45 |
| 9½ | 8⅛ | No sales. | | | | Producers & Refiners | | $37,438,950 | $50 | ..... | 9-15-23 | 33⅞ | 16¾ | 29⅞ | 16 | 25⅞ | 4 |
| 32½ | 31 | No sales. | | | | Producers & Refiners pfd. | | $2,845,350 | $50 | ..... | 5- 1-25 | 50 | 36⅞ | 49⅝ | 41 | 46¾ | 25½ |
| 24⅜ | 22½ | 4,600 | 24 | 23⅛ | 23⅞ | Pure Oil | | $75,959,250 | $25 | 37½cQ | 12- 2-29 | 33½ | 25 | 31⅝ | 19 | 30¾ | 20 |
| 26½ | 22⅞ | 1,000 | 25½ | 25¼ | 25½ | Richfield Oil | | $47,964,650 | $25 | 50cQ | 11-15-29 | 28⅝ | 25⅜ | 56 | 23 | 49⅝ | 20 |
| 19½ | 18¼ | 300 | 18⅞ | 18¾ | 18¾ | Rio Grande Oil | (sh) | 1,200,000 | N.P. | $2.00A | 7-25-29 | .. | .. | 37½ | 32 | 42½ | 15 |
| 54⅝ | 52⅜ | 2,700 | 52⅞ | 52½ | 52¾ | Royal Dutch, N. Y. | (sh) | 611,303 | $1.873 | ..... | 9-13-29 | 54½ | 44¼ | 64 | 44⅝ | 64 | 43⅛ |
| 23⅝ | 21⅜ | 1,700 | 23⅛ | 22⅞ | 23⅛ | Shell Union Oil | (sh) | 13,000,000 | N.P. | 35cQ | 12-31-29 | 31¾ | 24⅝ | 39¼ | 23¼ | 31¾ | 19 |
| 28¼ | 22⅞ | 2,200 | 28¼ | 26½ | 27 | Simms Petroleum | | $8,060,380 | $10 | 40cQ | 12-14-29 | 25⅜ | 14¼ | 27¼ | 18⅛ | 40⅛ | 15 |
| 25⅜ | 23½ | 13,400 | 25⅜ | 24⅝ | 25⅜ | Sinclair Consolidated | (sh) | 5,500,000 | N.P. | 50cQ | 1-15-30 | 22⅜ | 15 | 46¾ | 17⅜ | 45 | 21 |
| 111 | 109 | No sales. | | | | Sinclair Consolidated pfd. | | $16,025,250 | $100 | $2Q | 11-15-29 | 104½ | 97 | 110 | 102½ | 111 | 103 |
| 32¼ | 29⅞ | 1,000 | 31¾ | 31½ | 31½ | Skelly Oil | | $27,237,750 | $25 | 50cQ | 12-16-29 | 37⅜ | 24⅛ | 42⅝ | 25 | 40½ | 28 |
| 61⅝ | 59½ | 9,200 | 61⅛ | 60⅛ | 60⅜ | Standard Oil of California | (sh) | 12,594,098 | N.P. | 62½cQ | 12-16-19 | 60¾ | 50⅜ | 80 | 53 | 81⅞ | 51½ |
| 66⅞ | 62 | 45,800 | 65⅜ | 64 | 64 | Standard Oil of New Jersey | | $620,079,800 | $25 | 25cQ* | 12-16-29 | 41⅜ | 35⅛ | 59⅜ | 37¾ | 83 | 48 |
| 33⅞ | 32 | 4,900 | 33⅛ | 32¾ | 33 | Standard Oil of New York | | $434,094,575 | $25 | 40cQ | 12-16-29 | 34⅛ | 29¾ | 44¼ | 28¾ | 48⅛ | 31¾ |
| 59⅜ | 56½ | 200 | 57 | 57 | 57 | Sun Oil | (sh) | 1,297,627 | N.P. | 25cQ | 12-16-29 | 34⅞ | 30 | 77 | 31½ | 86⅜ | 55 |
| 7⅜ | 6 | 400 | 6¼ | 6⅛ | 6¼ | Superior Oil Corp. | (sh) | 2,324,938 | N.P. | ..... | 12-20-20 | .. | .. | .. | .. | 24 | 5¼ |
| 56¼ | 53¼ | 3,000 | 54¼ | 53¾ | 54 | The Texas Corporation | | $211,076,650 | $25 | 75cQ | 1- 1-30 | 58 | 45 | 74¾ | 50 | 71⅞ | 50 |
| 10¾ | 9¼ | 300 | 9⅞ | 9⅞ | 9⅞ | Texas Pacific Coal & Oil Co. | | $8,380,340 | $10 | 2½%A‡ | 12-31-29 | 18⅞ | 12 | 26⅝ | 12⅛ | 23⅞ | 9½ |
| 21⅞ | 19½ | No sales. | | | | Tide Water Oil | (sh) | 2,191,759 | N.P. | 20cQ | 12-31-29 | 29⅛ | 19 | 41½ | 19⅝ | 40 | 14 |
| 90 | 86⅞ | 400 | 88 | 88 | 88 | Tide Water 5½% pfd. | | $20,705,200 | $100 | $1.25Q | 11-15-29 | 90⅛ | 85 | 100⅛ | 86 | 97½ | 85⅛ |
| 13¼ | 11⅜ | 1,300 | 12¼ | 12 | 12⅛ | Tide Water Associated | (sh) | 4,796,158 | N.P. | 30c8 | 2-15-30 | 19⅛ | 15¾ | 25 | 14¾ | 23½ | 10 |
| 84 | 80⅜ | 400 | 83⅞ | 83 | 83⅞ | Tide Water Associated pfd. | | $72,844,300 | ... | $1.50Q | 2- 2-30 | .. | .. | .. | .. | 90⅞ | 74⅛ |
| 10⅛ | 8⅜ | 13,400 | 9⅛ | 8⅞ | 9 | Transcontinental Oil | (sh) | 3,742,029 | N.P. | ..... | ..... | 10⅜ | 3¾ | 14¾ | 7¼ | 15¼ | 5⅛ |
| 46¼ | 43¼ | 400 | 44⅜ | 43⅝ | 43¾ | Union Oil of California | | $94,798,100 | $25 | 50cQ | 11- 9-29 | 56½ | 39⅝ | 58 | 42⅜ | 57 | 42⅛ |
| 36¼ | 34 | 600 | 35½ | 35⅛ | 35⅛ | Union Tank Car | | $31,061,200 | $100 | $1.25Q | 12- 2-29 | 127½ | 94 | 128½ | 110 | 163¾ | 121⅞ |
| 20⅞ | 16⅝ | 1,400 | 18⅞ | 18⅝ | 18⅝ | Warner-Quinlan | (sh) | 356,000 | N.P. | 50cQ | 1- 2-30 | 34½ | 24½ | 44⅞ | 26 | 42⅞ | 15 |
| 28 | 26 | 200 | 27⅝ | 27⅝ | 27⅝ | White Eagle Oil & Refining | (sh) | 490,000 | N.P. | 50cQ | 1-20-30 | 27½ | 20 | 38 | 20⅛ | 38 | 25 |
| 15 | 13¾ | 200 | 14½ | 14 | 14½ | Wilcox Oil & Gas | (sh) | 2,400,000 | N.P. | ..... | 5-10-28 | .. | .. | .. | .. | 29¾ | 12⅞ |

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. x-Ex-dividend.

change has ruled the contracts in the rights, when, as and if issued, under plan, shall be null and void.

**Standard Oil of New Jersey**

Standard Oil Co. of New Jersey declared the usual extra dividend of 25 cents and the regular quarterly dividend of 25 cents, both payable March 15 to stock of record February 15.

**Vacuum Oil**

Vacuum Oil Co. directors have declared a quarterly dividend at the rate of $1 per share, payable March 20, 1930, to stockholders of record at the close of business February 28, 1930.

**Colombia Syndicate**

Directors of Colombia Syndicate were re-elected at the annual meeting. While no report was made, it was announced that assets consist mainly of the Ordonez-Valenzuela contract with South American Gulf Oil Co. and cash balance of $63,000.

Under terms of the contract, for which Gulf paid $500,000 in cash on August 15, 1927, all drilling expenses, rentals and taxes are to be paid by Gulf. In the event oil is located, Colombia Syndicate is to receive royalty of 6 per cent until such time as profits from the enterprise are sufficient to repay Gulf's original investment, when Colombia Syndicate will receive 10 per cent of the annual net profits, in addition to the royalty.

Operations by Gulf the past year were confined to the drilling of one well, Ordonez No. 2, which had reached depth of 5,970 feet on February 1, this year, and to geological and geophysical investigations of the northern portion of Valenzuela property. The two properties total some 700,000 acres.

**Sun Oil**

An additional issue of $5,000,000 Sun Oil Co. 6 per cent cumulative preferred stock has been placed on the market. The proceeds will be used to defray the cost of improvements already made or in process of construction at the company's refineries and for other corporoate purposes.

Average annual consolidated net earnings of the company after interest, depreciation, depletion and Federal taxes for the five years ended on December 31, 1929, were $4,600,519, or more than 7½ times the dividend requirements of the $10,000,000 of 6 per cent preferred stock to be outstanding. Net earnings for 1929 were $8,242,491. The preferred and common stocks are listed on the New York Stock Exchange and application will be made to list this additional issue.

**Ohio Oil**

Ohio Oil Co. declared an extra dividend of 50 cents and the regular quarterly of 50 cents on the common, both payable March 15 to stock of record February 14.

**Standard of California**

At a meeting of the Board of Directors of Standard Oil Co. of California divi-

(Continued on Page 140)

# INDEPENDENT OILS ON NEW YORK CURB

**Quotations Compiled by Francis, Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.**

| 1930 High | 1930 Low | Week ended February 5 Sales | High | Low | Close | Stocks— | | Outstanding capital | Par value | Div. rate | Last paid | 1927 High | 1927 Low | 1928 High | 1928 Low | 1929 High | 1929 Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ¼ | 1/8 | 5,200 | ¼ | 1/16 | 1/16 | Amer. Con. Oilfields | | $11,018,000 | $5 | ..... | ..... | 2 7/16 | .55 | 1½ | .53 | 72c | 1/8 |
| 2½ | 1½ | 1,200 | 2½ | 2 | 2½ | Amer. Maracaibo | (sh) | 700,000 | N.P. | ..... | ..... | 7½ | 2¾ | 9½ | 3⅛ | 8⅝ | 1⅛ |
| 1⅜ | 1⅜ | 100 | 1⅜ | 1⅜ | 1⅜ | Argo Oil | (sh) | 683,971 | $10 | ..... | ..... | 2¾ | 1 | 4½ | 2¼ | 5 | 1½ |
| | | No sales. | | | | British-American | (sh) | 1,311,321 | N.P. | 25cQ* | 1- 2-30 | 40 | 20½ | 55 | 32¾ | 62 | 7⅞ |
| 1 | ¾ | 600 | 1 | ⅞ | ⅞ | Carib. Syndicate | | $131,250 | 25c | ..... | ..... | 28¼ | 15½ | 4½ | 3⅞ | 4⅞ | 1 |
| 31¾ | 26½ | 40,300 | 31¾ | 30¾ | 31¾ | Cities Service | (sh) | 24,290,359 | N.P. | 30cA† | 1- 2-30 | 58¾ | 40¼ | 90⅞ | 54 | 68⅛ | 20 |
| 89⅞ | 88 | 300 | 88½ | 88½ | 88½ | Cities Service pfd. | (sh) | 1,500,000 | N.P. | 50cM | 1- 2-30 | 95⅜ | 87 | 103½ | 94½ | 98¾ | 84 |
| 3/8 | ¼ | 1,300 | 1/8 | ¼ | ¼ | Colombia Syndicate | | $2,000,000 | $1 | ..... | ..... | 3⅞ | 1⅛ | 3¼ | .76 | 2 | ½ |
| 5⅞ | 4¼ | No sales. | | | | Cons. Royalty | | $5,000,000 | $10 | 15cQ | 10-25-29 | 9¾ | 6⅜ | 8⅞ | 6¼ | 11⅛ | 2½ |
| 6⅝ | 6 | 2,600 | 6¼ | 6⅛ | 6¼ | Creole Petroleum | (sh) | 5,977,873 | N.P. | ..... | ..... | 14⅞ | 9½ | 17½ | 9½ | 11⅝ | 5⅝ |
| ⅝ | ¼ | No sales. | | | | Crown Central | (sh) | 578,000 | N.P. | ..... | ..... | 3 | .50 | 3¼ | .76 | 2½ | ¼ |
| 8¾ | 8 | 600 | 8½ | 8⅜ | 8⅜ | Darby Petroleum | (sh) | 1,019,392 | N.P. | 25cQ | 1-15-30 | 12 | 4 | 33½ | 3¼ | 26 | 6½ |
| 5⅜ | 4¾ | No sales. | | | | Derby Oil & Refining | (sh) | 500,000 | N.P. | ..... | ..... | 2½ | 74 | 2¼ | 1 | 11 | 2 |
| | | No sales. | | | | Derby Oil & Refining pfd. | (sh) | 48,500 | N.P. | ..... | ..... | 16¾ | 4 | 21⅛ | 7½ | 44 | 20¾ |
| 144 | 133 | 1,500 | 141½ | 138½ | 139¾ | Gulf Oil Corp. | (sh) | 4,504,921 | $25 | 37½cQ | 1- 1-30 | 118 | 86¼ | 165 | 101⅛ | 209 | 115 |
| 1¼ | ⅞ | 3,300 | 1⅛ | 1 | 1⅛ | Intercontinental Pet. | | $5,682,000 | $5 | ..... | ..... | 2½ | .80 | 3⅜ | 1 | 2⅞ | ⅜ |
| 2½ | 1⅞ | No sales. | | | | Kirby Petroleum | (sh) | 750,000 | N.P. | ..... | ..... | 2¼ | 1⅛ | 3 | 1¼ | 3⅝ | 1¼ |
| 1⅜ | 1⅛ | No sales. | | | | Leonard Oil & Dev. | | $50,000,000 | $25 | ..... | ..... | 10⅞ | 5⅛ | 9⅜ | 5⅛ | 6⅛ | 1 |
| 22 | 18⅝ | No sales. | | | | Lion Oil & Refining | (sh) | 250,000 | N.P. | 50cQ | 1-31-30 | 27½ | 20 | 43⅞ | 20 | 38⅞ | 18 |
| 39⅞ | 34⅛ | 2,100 | 39⅞ | 39 | 39¾ | Lone Star Gas | (sh) | 5,000,000 | N.P. | 20cQ | 12-31-29 | 59⅜ | 37 | 69⅛ | 48½ | 67⅞ | 28 |
| ⅛ | ¼ | No sales. | | | | Magdalena Syndicate | (sh) | 850,000 | $1 | ..... | ..... | 2⅞ | .80 | 1⅞ | .50 | 1¼ | ¼ |
| | | No sales. | | | | Margay Oil | (sh) | 160,000 | N.P. | 50cQ | 1-10-30 | 52 | 12 | 48½ | 32 | 38½ | 14 |
| | | No sales. | | | | Mexico-Ohio Oil | | ..... | ... | ..... | ..... | 12⅛ | 5 | 8 | 2¾ | 6⅜ | 2½ |
| 5/8 | ½ | No sales. | | | | Mountain & Gulf | | $4,000,000 | $1 | 2cQ | 1-15-30 | 1½ | 1 | 1⅜ | .76 | 1½ | ¼ |
| 9⅜ | 8 | 700 | 8¼ | 8⅛ | 8¼ | Mountain Producers | | $1,682,182 | $10 | 40cQ | 1- 2-30 | 29¼ | 22¾ | 28⅞ | 19½ | 22⅞ | 7 |
| 2⅞ | 2½ | 100 | 2⅝ | 2⅝ | 2⅝ | New Bradford Oil | | $1,095,291 | $5 | 12½cQ | 1-15-30 | 5⅞ | 4⅝ | 5⅝ | 4¼ | 5 | 2¼ |
| 4 | 3½ | 100 | 3⅝ | 3⅝ | 3⅝ | New Mex. & Arizona | | $1,000,000 | $1 | ..... | ..... | 16 | 9¼ | 11⅞ | 7⅛ | 9⅜ | 2¼ |
| 8½ | 7⅛ | 100 | 8 | 8 | 8 | North Central Texas | (sh) | 400,000 | N.P. | 15cQ | 12- 2-29 | 12¾ | 9½ | 14¼ | 8½ | 18½ | 6⅛ |
| 1⅞ | 1 | 3,700 | 1⅜ | 1½ | 1⅜ | Pandem | (sh) | 489,875 | N.P. | ..... | ..... | 9⅜ | 3¼ | 6 | 2⅛ | 3½ | ½ |
| 4 | 1⅞ | 1,000 | 3½ | 3½ | 3½ | Pantapec Oil | (sh) | 1,506,600 | N.P. | ..... | ..... | 12⅛ | 7 | 15⅝ | 8½ | 10¼ | 1⅞ |
| | | No sales. | | | | Pennok Oil | (sh) | 150,000 | N.P. | ..... | ..... | 13½ | 5⅛ | 7¾ | 4⅞ | 7¾ | 4⅝ |
| 10 | 9⅛ | No sales. | | | | Red Bank Oil | (sh) | 250,000 | N.P. | ..... | ..... | 24⅜ | 7 | 18 | 4⅞ | 16 | 9⅝ |
| 3 | 2⅜ | 300 | 2¾ | 2½ | 2¾ | Reiter-Foster | (sh) | 388,584 | N.P. | 10cQ | 12- 2-29 | 15½ | 3½ | 12⅞ | 4⅛ | 8½ | 1⅛ |
| 4⅛ | 3⅝ | No sales. | | | | Ryan Consolidated | (sh) | 500,000 | N.P. | ..... | ..... | 7 | 4½ | 12 | 4⅛ | 11 | 3 |
| 2⅜ | 2 | No sales. | | | | Salt Creek Consolidated | (sh) | 1,286,300 | $10 | 10cQ | 1- 2-30 | 8 | 5¼ | 7¼ | 5½ | 5⅞ | 1⅞ |
| 12⅜ | 10⅛ | 400 | 11 | 10¾ | 10¾ | Salt Creek Producers | (sh) | 1,496,859 | $10 | 50cQ | 2- 1-30 | 35½ | 27¼ | 35 | 23⅛ | 25⅞ | 9 |
| | | No sales. | | | | Savoy Oil | | $750,000 | $5 | ..... | ..... | 7 | 1¼ | 3½ | 1 | 2½ | 5/16 |
| 19½ | 18¼ | No sales. | | | | Transcontinental pfd. | | ..... | ... | ..... | ..... | .. | .. | .. | .. | .. | .. |
| 4¼ | 2¼ | 1,000 | 3 | 2⅞ | 2⅞ | Venezuelan Petroleum | (sh) | 755,090 | $5 | 5cQ | 11-15-29 | 7⅜ | 4¼ | 9⅛ | 4¾ | 6½ | 1¾ |
| 3 | 2⅜ | 300 | 2⅞ | 2⅞ | 2⅞ | Woodley Petroleum | | $500,000 | $1 | ..... | ..... | 7 | 4⅜ | 8¼ | 4⅞ | 9½ | 2 |
| 1⅞ | ½ | No sales. | | | | "Y" Oil & Gas (new) | (sh) | 100,000 | N.P. | ..... | ..... | 6 | 1¾ | 8⅜ | 2⅛ | 2⅞ | ¼ |

*Including one-half per cent monthly in stock. x Ex-dividend. †Payable monthly and a monthly stock dividend of one-half per cent. ‡Cents per share.

# STANDARD OIL STOCKS ON NEW YORK CURB

**Quotations Compiled by Francis, Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.**

| 1930 High | 1930 Low | Week ended February 5 Sales | High | Low | Close | Stocks— | Outstanding capital | Par value | Div. rate | Last paid | 1927 High | 1927 Low | 1928 High | 1928 Low | 1929 High | 1929 Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17⅝ | 15¾ | 300 | 16 | 15¾ | 15¾ | Anglo-American Oil (nv) | £4,192,635 | £1 | .36 5/16 | 11-27-29 | 21⅝ | 17⅞ | 22⅜ | 14⅞ | 17 | 11 |
| ⅞ | ¾ | No sales. | | | | Atlantic Lobos | ..... | ... | ..... | ..... | .. | .. | .. | .. | .. | .. |
| | | No sales. | | | | Borne Scrymser | $1,000,000 | $25 | $18.A. | 10-15-29 | 69 | 50 | 56½ | 44½ | 46½ | 25 |
| 69 | 67¾ | 300 | 67¾ | 67¾ | 67¾ | Buckeye Pipe Line | $10,000,000 | $50 | $1Q | 12-14-29 | 60 | 45 | 76 | 53 | 74¼ | 55 |
| 166¼ | 155 | No sales. | | | | Chesebrough Mfg. | $3,000,000 | $25 | $1Q* | 12-30-29 | 126 | 76½ | 161 | 117 | 210 | 130 |
| 15⅞ | 12¾ | 300 | 13⅛ | 13⅛ | 13⅛ | Continental Oil | $36,057,840 | $10 | ..... | 12-15-27 | 22⅝ | 16¼ | 23 | 16 | 29 | 10 |
| 53 | 43 | No sales. | | | | Cumberland Pipe Line | $1,500,000 | $50 | $1Q | 12-15-29 | 137 | 89 | 114 | 67 | 75¾ | 40 |
| 54¾ | 54 | No sales. | | | | Eureka Pipe Line | $5,000,000 | $100 | $1Q | 11- 1-29 | 68½ | 47 | 88 | 64⅛ | 70½ | 42 |
| 3¾ | 3½ | No sales. | | | | Galena Signal Oil | $16,000,000 | $100 | ..... | ..... | 13½ | 3½ | 13 | 4¼ | 6½ | 3 |
| 86⅜ | 78 | 800 | 83 | 81⅞ | 81⅞ | Humble Oil & Refining | $74,103,300 | $25 | 50cQ | 1- 1-30 | 68½ | 54 | 114¾ | 59¼ | 128 | 74⅛ |
| 310 | 305 | 1,100 | 310 | 307¾ | 307¾ | Illinois Pipe Line | $20,000,000 | $100 | $10S.A. | 12-16-29 | 182 | 123¾ | 290½ | 176½ | 340½ | 260 |
| 27⅜ | 24⅞ | 4,200 | 25⅜ | 24⅞ | 24⅞ | Imperial Oil Co., Ltd. | 26,421,768 | N.P. | 12½cQ | 12- 2-29 | 64¾ | 37¾ | 104 | 56¾ | 41 | 22 |
| 41 | 38⅝ | 300 | 40 | 40 | 40 | Indiana Pipe Line | $3,000,000 | $10 | 50cQ‡ | 2-15-30 | 94½ | 61 | 91⅞ | 74⅜ | 41⅞ | 26 |
| 21⅞ | 20 | 2,300 | 20⅛ | 20 | 20 | International Pet. | 14,247,088 | N.P. | 12½cQ | 12-16-29 | 29 | 28¼ | 55 | 35 | 30⅜ | 15 |
| 22¾ | 21 | 100 | 21 | 21 | 21 | National Transit | $6,362,500 | $12.50 | 25cQ‡ | 12-16-29 | 24 | 13½ | 32⅜ | 19⅜ | 25⅛ | 10½ |
| 18¼ | 18¼ | No sales. | | | | New York Transit | $1,000,000 | $10 | 40cQ§ | 1-15-30 | 44½ | 31¼ | 75 | 38½ | 17½ | 10 |
| 54 | 50¼ | No sales. | | | | Northern Pipe Line | $2,000,000 | $50 | $28.A. | 1- 2-30 | 100 | 70 | 69 | 56½ | 63 | 41 |
| 71¼ | 69¾ | 400 | 70½ | 70⅜ | 70½ | Ohio Oil | $60,000,000 | $25 | 50cQ‡ | 12-14-29 | 67⅞ | 52 | 84 | 58½ | 79⅞ | 64⅛ |
| 22½ | 20 | 500 | 22½ | 22⅜ | 22½ | Penn Mex. Fuel | $10,000,000 | $25 | 50cQ | 12-14-29 | 30 | 12 | 84 | 28 | 44½ | 20 |
| 33 | 32 | No sales. | | | | Solar Refining | $4,000,000 | $25 | $1.25S.A. | 12-20-29 | .. | .. | .. | .. | 50 | 29 |
| 16¾ | 13 | No sales. | | | | Southern Pipe Line | $1,000,000 | $10 | 50cQ | ..... | 27¼ | 15½ | 19 | 15 | 22½ | 13 |
| 41⅛ | 40 | 300 | 40¼ | 40 | 40 | South Penn Oil (new) | $30,000,000 | $25 | 50cQ | 12-30-29 | 41½ | 35 | 71⅞ | 36¾ | 60¼ | 35⅛ |
| 64 | 59 | No sales. | | | | Southwest Pa. Pipe Lines | $1,750,000 | $50 | $1Q | 10- 1-29 | 83 | 55½ | 102 | 70 | 70 | 60 |
| 54⅝ | 52 | 3,100 | 53 | 52¾ | 52⅞ | Standard Oil of Indiana | $348,175,069 | $25 | 62½cQ‡ | 12-16-29 | 81½ | 64⅝ | 95⅞ | 70⅞ | 63 | 45 |
| 30 | 28½ | 300 | 29 | 28⅝ | 29 | Standard Oil of Kansas | $8,000,000 | $25 | 50cQ | 12-16-29 | 20⅞ | 14⅝ | 37¾ | 15 | 33¾ | 18 |
| 35¾ | 33¼ | 1,500 | 34⅞ | 34½ | 34¾ | Standard Oil of Kentucky | $25,654,516 | $10 | 40cQ | 12-16-29 | 130 | 111½ | 179¾ | 122¼ | 46⅞ | 29 |
| 46⅞ | 44⅛ | No sales. | | | | Standard Oil of Nebraska | $4,649,225 | $25 | 62½cQ‡ | 12-20-29 | 49½ | 40 | 54⅞ | 39⅞ | 50¼ | 40 |
| 88⅜ | 81 | 50 | 84¼ | 84¼ | 84¼ | Standard Oil of Ohio | $14,000,000 | $25 | 62½cQ | 1- 2-30 | 87½ | 72 | 134 | 71 | 129 | 60 |
| 13½ | 13½ | No sales. | | | | Swan-Finch Co. | $861,466 | $25 | ..... | 12- 2-29 | 21 | 14½ | 23½ | 16 | 18 | 10 |
| 96⅞ | 93⅝ | 800 | 96 | 95⅜ | 95⅜ | Vacuum Oil Co. | $126,180,350 | $25 | $1Q | 12-20-29 | .. | .. | 111 | 72 | 133¾ | 75 |

Note—High and low on all stocks selling this week are for 1930.
*Plus 50 cents extra. ‡Plus 25 cens extra. §Plus 10 cents extra. x Ex-dividend.

## EAST COAST REFINERS ARE MARKING TIME

(Continued from Page 129)

marketing subsidiaries of the large integrated companies. There is plenty of gasoline available for export, the shortage which existed at some Atlantic Coast points during the closing weeks of December having been made up by the addition of stocks to storage from current production, due to the curtailed domestic consumption. While refiners are not quoting an open market basis on cased gasoline and naphtha, prices are reported holding steady in sympathy with the unchanged market for bulk products maintained at the Gulf Coast by the export association. South America and the Far East have been heavy buyers of the cased products thus far in 1930, and the outlook indicates continued heavy buying from these sources.

### Petroleum Exports

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

| | Week ended | | |
|---|---|---|---|
| | Feb. 1 | Jan. 25 | Jan. 18 |
| Gasoline | 468,000 | 900,000 | 870,000 |
| Naphtha | 975,000 | 825,000 | 1,970,000 |
| Kerosene | 410,000 | 25,000 | 315,000 |
| Fuel oil | 30,000 | 125,000 | 38,000 |
| Lubricating oil | 2,395,000 | 3,410,000 | 1,841,500 |
| Petroleum, refined | 831,000 | 1,725,000 | 2,687,000 |
| | Pounds | | |
| Petrolatum | | | 19,000 |
| Paraffin wax | 2,660,000 | 2,205,000 | 1,698,000 |
| Refined | 831,000 | 1,300,000 | 197,000 |
| Scale | 264,000 | 812,000 | 1,185,000 |
| Lubricating grease | 765,000 | 1,620,000 | 1,635,000 |

Export movement of paraffin wax has shown an appreciable increase since the start of the year, and there has also been some increase in exports of lubricating oils, although much of the gain, it is reported here, is centering on red and pale oils. Gasoline and naphtha shipments into export channels have been rather routine in recent weeks, and the same condition obtains on kerosene. A larger movement of these products is reported out of Baltimore and Philadelphia, however.

### Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended February 1 totaled 1,446,000 bbls., a daily average of 206,571 bbls., compared with 2,260,000 bbls., a daily average of 322,857 bbls. for the previous week and a daily average of 269,786 bbls. for the four weeks ended February 1. Details follow:

| | Bbls. of 42 gals. |
|---|---|
| At Atlantic Coast ports— | |
| Baltimore | 326,000 |
| New York | 477,000 |
| Philadelphia | 218,000 |
| Others | 345,000 |
| Total | 1,366,000 |
| Daily average | 195,143 |
| At Gulf Coast ports— | |
| Galveston district | 65,000 |
| New Orleans and Baton Rouge | 15,000 |
| Total | 80,000 |
| Daily average | 11,428 |
| At all United States ports— | |
| Total | 1,446,000 |
| Daily average | 206,571 |
| Daily average four weeks | 269,786 |

### California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended February 1 totaled 398,000 bbls., a daily average of 56,857 bbls., compared with 756,000 bbls., a daily average of 102,000 bbls. for the previous week and a daily average of 91,964 bbls. for the four weeks ended February 1. Details follow:

| | Bbls. of 42 gals. |
|---|---|
| At Atlantic Coast ports— | |
| Baltimore | 72,000 |
| New York | 167,000 |
| Philadelphia | 80,000 |
| Others | 54,000 |
| Total | 373,000 |
| Daily average | 53,286 |
| At Gulf Coast ports— | |
| Total | 25,000 |
| Daily average | 3,571 |
| At Atlantic and Gulf Coast ports— | |
| Total | 398,000 |
| Daily average | 56,857 |
| Daily average four weeks | 91,964 |

Distribution of total California oil receipts is as follows:

| | |
|---|---|
| Gasoline | 398,000 |

Shipments of California refined products for the East Coast during the week, with ownership of tanker where such vessels are owned by oil companies, follow:

To New York—73,000 bbls. of distillate on the Aladdin (Standard Transportation Co.S. O. N. Y.); 82,400 bbls. of gasoline on the Hampton Roads; 45,500 bbls. of gasoline on the Pueblo, and 79,000 bbls. of gasoline on the S. C. T. Dodd (Standard Oil Co. of California).

To Baltimore—79,800 bbls. of gasoline on the Betterton (Tide Water Associated Oil Co.).

To Providence—97,500 bbls. of gasoline on the China Arrow (Standard Transportation Co.-S. O. N.Y.).

To Philadelphia—95,000 bbls. of gasoline on the Cities Service Empire (Cities Service Transportation Co.).

## CHICAGO THINKS LOW FOR SEASON PAST

(Continued from Page 128)

the consumption of and the resulting demand for road oil and more of the very heavy fuel oil has to find a market. As the result we see some of the very large industrial users of heavy fuel oils making contracts with refiners for a regular supply of their heavy residual oils which quite commonly have a gravity of less than 10 degrees, but in many instances have a low viscosity at moderate temperatures, this depending in a great measure on the process used in refining. One of the large Ohio users, the Youngstown Sheet & Tube Co., is stated to have made such a contract. A large forging plant near Chicago has a contract for a car a day of this heavy fuel oil. It requires some additional equipment but in a large plant this is quickly made up to the management in the saving in the price of the fuel oil. Another large refinery has contracted to sell what is understood to be its entire supply of 18-22 fuel oil to local concerns at 75 cents a barrel, Group 3, and the oil is a high-grade, clean product. There is little doubt that some large refiners of fuel oil have just about made up their minds that now is a better time to sell their material than a month later and the seller must not be too particular as to the price.

### Texas Shipments

Another matter that has had some influence at least locally was that a large quantity of fuel oil was bought from a Texas refiner and resold to industrial users in the vicinity. The first shipments were not well received and there were a great many rejections. To stop this trouble which was causing a serious loss as well as giving the product a bad name with users, the refiner rerun or reblended the fuel oil and for a time was unable to make shipments. During this period the concerns who had bought this fuel oil supplied themselves elsewhere. Now the oil is once more available and is a really desirable product, and the demand has been covered at least in part and for some time ahead. Some of the Refugio crude was taken in to cover the shortage caused by these slow shipments. It has been found a very satisfactory oil for many purposes, but, according to latest reports, the larger part of the production will be taken by a pipe line company and only a small part of the crude will be available for others, although one of the large local distributors states he has a contract for a considerable quantity which will have to be filled. There are two grades, just as there was in the old days when so much Smackover crude was sold here for fuel, the good oil from steel and the other kind from dirt storage, the latter in many cases containing a considerable amount of impurities. Some of the local distributors are finding the oil very acceptable to their trade and there will be a real regret on their part if they are unable to secure a steady supply.

The nominal market price for a good 18-22 gravity fuel oil is still 80 to 85 cents but sales are being made at 77½ cents and some quotations have been made on bids at less, at least the price of 77½ cents did not secure the business. There is some fuel oil available for certain uses which can be sold for considerably less than even 77½ cents and there is little doubt in the mind of the dealers that lower prices have been quietly quoted to keep the machinery of the business going and to take out fuel oil as contracted for. That there has been any real profit in these sales is doubtful. In dull periods there is a lot of selling on very narrow margins.

### Lubricating Oils

There is no change of moment in either motor or industrial lubricating oils or greases. The compounders are charged with putting on a regular campaign to "bear" the market and any reports made of lower prices or anything that might mean a lower price is branded as a piece of propaganda intended to weaken the market so that these tank car buyers of refinery stocks might be able to purchase their material at a little lower price. Sales are light and prices are unchanged as to refinery stocks. Industrial lubricating oils locally are being badly cut in price.

## STANDARD OF INDIANA INCREASES CAPITAL

(Continued from Page 139)

dend No. 16 of 62½ cents per share was declared on the outstanding stock of this corporation payable on March 15, 1930, to all stockholders of record as shown by the transfer books of the corporation in San Francisco and New York at the close of business on February 15, 1930.

### General Asphalt

General Asphalt Co. declared regular quarterly dividend of $1 on common, payable March 15 to stock of record February 28.

### Eureka Pipe Line

Report of Eureka Pipe Line Co. for year ended December 31, 1929, shows net income of $17,369 after depreciation, etc., equivalent to 34 cents a share on 50,000 shares of stock. This compares with $64,726 or $1.29 a share in 1928.

### Standard Oil Export

Application to list 750,000 shares of the Standard Oil Export Corp. 5 per cent cumulative preferred stock of $100 par value has been made to the New York Stock Exchange. This listing is in conjunction with the acquisition by Standard Oil Export Corp., subsidiary of the Standard Oil Co. of New Jersey, of the Anglo-American Oil Co., Ltd.

### Standard of New York

Standard Oil Co. of New York will issue 471,750 shares of additional stock to finance acquisition of the White Eagle Oil & Refining Co. Of this total, 429,335 shares, of $25 par value, will be issued in exchange for White Eagle stock,

## REDUCE MID-CONTINENT REFINERY RUNS

(Continued from Page 44)

### REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| Bayou State Refining Co., Hosston | 700 | 500 | 500 |
| Crystal Oil Refining Corp., Shreveport | 14,000 | 4,000 | 5,000 |
| Dixie Oil Co., Superior | 3,000 | 2,600 | 3,100 |
| Louisiana Oil Refining Co., Shreveport, Bossier | 24,000 | 16,000 | 15,700 |
| Shreveport, El Dorado Pipe Line Co., Shreveport | 10,000 | 8,300 | 9,000 |
| The Texas Company, Shreveport | 7,000 | 6,500 | 6,500 |
| Total | 58,700 | 38,500 | 39,300 |

### REFINERY OPERATIONS IN ARKANSAS

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| James B. Berry & Sons Co., Waterloo | 2,000 | 1,500 | (*) |
| Henry H. Cross Co., Smackover | 6,000 | 5,000 | 5,100 |
| Houston Oil Co., Camden | 3,000 | 3,000 | 1,800 |
| Kettle Creek Refining Co., Pearson | 5,000 | 2,600 | 2,600 |
| Lion Oil & Refining Co., El Dorado | 12,000 | 8,000 | 8,000 |
| Macmillan Petroleum Products Co., El Dorado | 1,800 | 1,550 | 1,550 |
| Ouachita Valley Refining Co., El Dorado | 2,000 | 700 | 800 |
| Root Refining Co., El Dorado | 10,000 | 8,000 | 8,100 |
| Simms Oil Co., Smackover | 3,000 | (*) | 2,700 |
| Total | 44,800 | 30,355 | 30,650 |

*Shut down.

### REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| Barnsdall Refineries, Inc., Wichita | 4,000 | 1,500 | 1,500 |
| Derby Oil Co., Wichita | 6,000 | 3,000 | 3,000 |
| Eldorado Refining Co., Eldorado | 3,500 | 2,800 | 2,400 |
| Golden Rule Refining Co., Wichita | 1,500 | 800 | 800 |
| Kanotex Refining Co., Arkansas City | 10,000 | 2,000 | 3,500 |
| Independent Oil & Gas Co., Kansas City | 6,000 | 5,300 | 5,000 |
| National Refining Co., Coffeyville | 6,500 | 6,000 | 6,000 |
| Peerless Oil Refining Co., Chanute | 3,000 | 1,800 | 1,800 |
| Shell Petroleum Corp., Arkansas City | 22,000 | 17,000 | 17,000 |
| Sinclair Refining Co., Coffeyville | 10,000 | 10,000 | 10,000 |
| Sinclair Refining Co., Argentine | 9,500 | 7,000 | 7,500 |
| Skelly Oil Co., Eldorado | 23,000 | 11,500 | 10,800 |
| Standard Oil Co. of Kansas, Neodesha | 12,000 | 8,000 | 10,000 |
| Vickers Petroleum Co., Potwin | 3,500 | 2,000 | 2,000 |
| White Eagle Oil Corp., Augusta | 10,000 | 8,000 | 8,000 |
| Total | 132,000 | 86,700 | 89,300 |

*Shut down.

### REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

| Name and address— | Daily capacity | Runs Feb. 1 | Runs Jan. 1 |
|---|---|---|---|
| Big Spring Refining Co., Big Spring | 2,500 | 1,900 | 1,800 |
| Bluebonnet Oil Refining Co., Wickett | 5,000 | (*) | 2,000 |
| Burford Oil Co., Pecos City | 6,000 | 3,500 | 4,000 |
| Central Texas Refining Co., Brownwood | 2,000 | 400 | 700 |
| Central Texas Refining Co., Luling | 2,500 | 1,500 | 1,700 |
| Col-Tex Refining Co., Colorado | 10,000 | 6,000 | 6,500 |
| Cosden Oil Co., Big Spring | 15,000 | 7,300 | 8,000 |
| Del Rio Refining Co., Del Rio | 5,000 | 2,500 | 2,000 |
| Grayburg Oil Co., San Antonio | 6,000 | 2,400 | 2,400 |
| Great Western Refining Co., Big Spring | 8,500 | 3,000 | 3,600 |
| Gulf Oil & Refining Co., Sweetwater | 5,000 | 5,000 | 5,000 |
| Humble Oil & Refining Co., San Antonio | 5,000 | 3,000 | 3,000 |
| Humble Oil & Refining Co., McCamey | 15,000 | 8,000 | 8,000 |
| Misko Refineries, Inc., Laredo | 1,500 | 500 | 500 |
| Mid-Tex Refining Co., Midland | 2,500 | 900 | 2,000 |
| Pasotex Petroleum Co., El Paso | 10,000 | 9,200 | 5,000 |
| Pecos Valley Refining Co., Pyote | 8,500 | (*) | (*) |
| Pioneer Oil & Refining Co., Somerset | 1,500 | 1,000 | 1,500 |
| Richardson Refining Co., Big Spring | 6,000 | 4,000 | 4,000 |
| Rio Grande Oil Co., El Paso | 6,000 | 3,500 | 3,000 |
| San Angelo Refining Co., San Angelo | 2,000 | 500 | 500 |
| Sweetwater Oil & Refining Co., Sweetwater | 2,000 | 250 | 250 |
| The Texas Company, San Antonio | 3,000 | 2,500 | 2,500 |
| The Texas Company, El Paso | 1,500 | 1,000 | 1,000 |
| Tonkawa Petroleum Co., Pyote | 5,000 | 1,000 | 600 |
| Texas Mexican Oil & Refining Co., Laredo | 1,000 | 200 | 200 |
| Texas Petroleum Products Co., Somerset | 1,500 | 800 | 800 |
| Wickett Refining Co., Wickett | 2,500 | (*) | 160 |
| Total | 142,000 | 69,850 | 70,710 |

*Shut down.

on the basis of 8½ shares for each ten shares of White Eagle, and 42,415 shares of Socony stock will be issued in connection with warrants attached to White Eagle 5½ per cent sinking fund debentures.

Standard of New York is also issuing 4,500 shares of additional stock to cover the acquisition of additional properties.

The New York company has just listed 471,750 additional shares on the New York Stock Exchange, covering these acquisitions.

**Imperial Oil**

Imperial Oil, Ltd., declared the regular quarterly dividend of 12½ cents, payable March 1 to stock of record February 15.

**White Star Refining**

White Star Refining Co. reports for the year December 31, 1929, net profit of $2,949,600 after depreciation, federal taxes and other charges, equivalent to $9.21 a share on 320,000 no-par shares of capital stock. This compares with net profit of $1,522,456, or $4.75 a share in 1928.

**Humble Oil & Refining**

Net profits of the Humble Oil & Refining Co. for 1929 totaled $32,000,000, according to a statement by W. S. Farish, president, read at the annual meeting of stockholders at Houston Monday. The profits represented a return of 9.2 per cent on a fair valuation of the company's properties as against a return of 6.9 per cent for 1928. Approximately $2,500,000 of the profits during 1929 resulted from the sale of the company's properties in Oklahoma, Arkansas and North Louisiana.

According to Mr. Farish's statement the increased operating profits were the result of large capital expenditures and were moderate considering this and the uncertainty and hazards of the oil business. Mr. Farish stated that with conditions in the industry as they are today it would be almost reckless to make a guess as to the result of operations during 1930.

**Prairie Oil & Gas Earnings**

The Prairie Oil & Gas Co. announces net earnings in 1929 after providing for depletion, depreciation and taxes of $14,563,746.44, or at the rate of $5.99 per share.

**Twenty Representative Stocks**

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

| | | | |
|---|---|---|---|
| Aug. 17 | 60.32 | Nov. 15 | 47.61 |
| Aug. 24 | 60.61 | Nov. 22 | 47.76 |
| Aug. 31 | 60.90 | Nov. 29 | 48.60 |
| Sept. 7 | 59.16 | Dec. 4 | 50.60 |
| Sept. 14 | 60.40 | Dec. 11 | 50.51 |
| Sept. 21 | 57.93 | Dec. 18 | 49.24 |
| Sept. 28 | 58.63 | Dec. 24 | 47.36 |
| Oct. 5 | 57.00 | Dec. 31 | 48.86 |
| Oct. 12 | 59.75 | Jan. 8 | 48.56 |
| Oct. 19 | 58.70 | Jan. 15 | 48.38 |
| Oct. 26 | 54.59 | Jan. 22 | 47.13 |
| Oct. 31 | 42.29 | Jan. 29 | 47.46 |
| Nov. 8 | 48.31 | Feb. 5 | 48.13 |

## UPS AND DOWNS IN PRODUCTION IN 1929

(Continued from Page 72)

as to drilling operations. The Penn Pool in Ector County is already showing indications of future major class.

**Decline in Major Pools**

Of the 44 major pools that suffered a decline in production last year the Bowlegs Pool in the Seminole Field, Oklahoma, experienced the greatest drop, 11,678,646 bbls. In 1927 Bowlegs produced 36,649,733 bbls. In 1928 it fell off to 23,800,896 bbls. and last year dropped to 12,122,250 bbls. The Earlsboro Pool, also a part of the Seminole Field, declined 7,719,819 bbls. last year even though the new East Earlsboro Pool, the production of which is included in the Earlsboro total, produced 6,547,492 bbls. Leaving East Earlsboro's production out of the picture, the old Earlsboro Pool actually fell off 14,267,311 bbls., an even greater drop than that experienced by the Bowlegs Pool. In 1927 the old Earlsboro Pool produced 36,885,196 bbls.; in 1928, 33,321,824 bbls., and last year 19,054,513 bbls., and together with East Earlsboro 25,602,005 bbls. Seminole City, the original pool in the Seminole Field, declined 6,315,674 bbls. last year. In 1927 this pool produced 47,039,644 bbls.; in 1928, 18,237,004 bbls., and in 1929, 11,921,330 bbls. The Burbank Pool in Oklahoma, which produced 15,266,099 bbls. in 1927, fell off to 13,060,449 bbls. in 1928, but experienced a pronounced decline last year when it fell to a production of 7,435,589 bbls.

## CALIFORNIA REFINERS ON CURRENT BASIS

(Continued from Page 39)

field. Operators are satisfied with the present potential assigned to Seal Beach and have waived the necessity of making a flow test. It is proposed, however, to include Alamitos Heights with Seal Beach and this area will henceforth be obliged to curtail production in sympathy with other fields. The Maricopa Flats section at Midway-Sunset is also scheduled to be cut back. Mount Poso, Round Mountain and the West Front section of Kern River Field will also be reduced although it is hoped that a complete shutdown can be effected.

**Theoretical Potentials**

The theoretical potentials credited to flush fields by Umpires Grimm and Anderson came in for considerable discussion at the preliminary meeting attended by representatives of the major companies and a number of independent operators who gathered in response to an urgent request from L. P. St. Clair, vice president of the Union Oil Co. and American Petroleum Institute. The inability of engineers to agree upon the potentials of the fields involved made it impossible for this committee to prorate the additional cut necessary to bring state production down to the allowable maximum of 609,000 bbls. It was the consensus that if the lid blew off because of the failure to effect an immediate reduction in production that the inevitable law of supply and demand would force crude oil down to 25 cents a barrel and gasoline down to 5 cents a gallon. In order to prevent any such condition a committee of 15 was selected to prosecute immediate curtailment. This general committee consists of Herbert R. Macmillan, president Herbert Macmillan Co.; A. T. Jergins, of the Jergins Trust; J. U. Stair, Shell Oil Co.; J. H. Jenkins, Associated Oil Co.; John A. Brown, General Petroleum Corp.; Paul Boggs, Union Oil Co.; W. H. Berg, Standard Oil Co.; J. A. Birmingham, The Texas Company; W. E. Dunlap, Richfield Oil Co.; A. H. Bell, Continental Oil Co.; S. B. Mosher, Signal Oil Co.; William C. McDuffie, Pacific Western Oil Co.; R. A. Sperry, General Petroleum Corp.; Neal Anderson, umpire at Long Beach; and Paul Grimm, umpire at Santa Fe Springs.

Supplementary committees have been appointed in each of the flush fields involved in order to acquaint all operators with the seriousness of the present situation and the necessity of additional curtailment.

## KEEN COMPETITION IN EAST COAST TERRITORY

(Continued from Page 132)

closing quarter of 1929 were only 323,616,000 gallons. Thus, in one month, California refiners produced sufficient gasoline to take care of practically three months "home" consumption. During closing quarter of 1929, California refiners produced 1,007,034,000 gallons of gasoline, over 200 per cent in excess of sales of taxable gasoline in California during that period. In this connnection, it must be borne in mind that California refiners supply the major proportion of the requirements of a number of nearby marketing areas, but even taking this into consideration, it is evident that the refining capacity of the Golden State is operated in excess of required capacity. The mere fact that California gasoline is being openly quoted at a price which shows a netback of 5¾ cents per gallon, and "unofficially" quoted at levels showing but a 5¼ cents netback is indicative of an unhealthy situation—particularly so in view of the fact that refinery interests in other sections of the country must suffer the consequences of this overproduction.

**Gasoline Imports**

Imports of gasoline (mainly from refineries adjacent to Venezuela) increased from 176,316,000 gallons in 1928 to 372,456,000 gallons in 1929. While an accurate estimate of 1930 imports is not possible at this time, it would not be surprising to see the total for the year go to close to 700,000,000 gallons, or even higher in the event that export markets fail to absorb a steadily growing proportion of the output of South American refineries.

Total imports of crude petroleum for 1929 were slightly under those for the preceding year, amounting to 78,915,000 bbls. against 79,767,000 bbls, Venezuela increased less than 4,000,000 bbls., shipping 50,637,000 bbls. of crude into the United States in 1929 against 46,977,000 bbls. in the preceding year. The continued drop in Mexican production and exports was the saving factor in the imported crude situation, imports from that country dropping from 17,584,000 bbls. in 1928 to 12,663,000 bbls. in the year just closed. Imports of crude from Mexico this year are scarcely expected to go beyond 1929 levels, and may possibly show a further decline.

Production of crude in Venezuela during 1930 is expected to remain "pegged" close to 1929 levels, assuming that current conditions with respect to the unhampered importation of this oil continues. Colombia may be expected to go forward slightly in production, with Peru and other South American countries slightly increasing their crude oil yields.

Crude oil imports for 1930, therefore, may reasonably be expected to be slightly smaller than those for 1929. The one single factor responsible for this development, however, will be the utilization of Lago's Venezuelan crude shipments, in the neighborhood of 100,000 bbls. daily or more, at the Aruba refinery of Pan American, with possibly greater utilization of Royal Dutch's crude output at its West Indies refining plants. This will take the pressure off the domestic crude oil market, in so far as direct competition is concerned, but will develop a type of competition much sharper in the long run —that having to do with gasoline sales in this country. Mid-Continent and Gulf refiners will probably feel this competition, although the greater part of the burden will fall on the shoulders of East Coast refiners. Some prominent East Coast interests have provided for the contingency of South American gasoline competition through the development of important sources of cheap crude production in South America for their East Coast United States refineries. Other refiners, however, have not been so farsighted, or fortunate.

The severity of the competition which East Coast refiners are being called upon to meet is best illustrated by the fact that in 1928 they were called upon to sell their own gasoline production in competition with a total of 851,802,000 gallons of California and imported gasoline shipped into this territory. During 1929, the quantity of "outside" gasoline delivered in this area amounted to 1,289,030,000 gallons, an increase of more than 50 per cent. Assuming that California gasoline shipments to the East Coast during 1930 remain close to 1929 levels (although all indications point to a substantial increase) and that South American gasoline imports do not go over 700,000,000 gallons, East Coast and Gulf markets will be called upon to absorb approximately 1,616,500,000 gallons of "outside" gasolines in their home marketing territories. Obviously, this heavy influx of competitive gasoline will have a vital bearing upon the refining operations of East Coast oil companies, and will affect sales and earnings to a considerable extent—particularly so if competition reaches the point where anything in the nature of a widespread price war breaks out.

## A. P. I. COMMITTEE ON OPERATIONS ANNOUNCED

(Continued from Page 50)

Farish, Humble Oil & Refining Co., Houston, Tex.; W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence, Kans.; H. V. Foster, Indian Territory Illuminating Oil Co., Bartlesville, Okla.; Jacob France, Mid-Continent Petroleum Co., Tulsa; Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore, Okla.; C. M. Fuller, Richfield Oil Co., Los Angeles; John L. Gray, Shaffer Oil & Refining Co., Tulsa; M. J. Grogan, Louisiana Oil & Refining Co., Shreveport, La.; R. C. Holmes, The Texas Company, New York; W. M. Irish, Atlantic Refining Co., Philadelphia; K. R. Kingsbury, Standard Oil Co. of California, San Francisco; R. F. MacArthur, Barnsdall Oil Co., Tulsa; R. S. Macmillan, California Oil and Gas Association, Los Angeles; Edgar J. Marston, Texas Pacific Coal & Oil Co., Fort Worth, Tex.; W. C. McDuffie, Pacific Western Oil Co., Los Angeles; E. T. Moore, Simms Petroleum Co., Dallas, Tex.; D. J. Moran, Continental Oil Co., Ponca City, Okla.; J. Edgar Pew, Sun Oil Co., Philadelphia; Waite Phillips, Independent Oil & Gas Co., Tulsa; E. G. Seubert, Standard Oil Co. of Indiana, Chicago; L. P. St. Clair, Independent Oil Producers Agency, Los Angeles; W. G. Skelly, Skelly Oil Co., Tulsa; Thomas B. Slick, Tom Slick Oil Co., Oklahoma City, Okla.; W. C. Teagle, Standard Oil Co. of New Jersey, New York; J. C. Van Eck, Shell Union Oil Co., New York; L. H. Wentz, Wentz Oil Corp., Ponca City, Okla.; George P. Whaley, Vacuum Oil Co., New York.

**Division of Production**

William N. Davis, chairman, Phillips Petroleum Co., Bartlesville, Okla.; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York; C. A. Young, secretary, American Petroleum Institute, Dallas, Tex.; J. Edgar Pew, Sun Oil Co., Dallas, Tex.; W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence, Kans.; R. Ogarrio, The Texas Company, New York; A. E. Watts, Sinclair Consolidated Oil Corp., New York; E. J. Sadler, Standard Oil Co. of New Jersey, New York; Wirt Franklin, Wirt Franklin Oil Co., Ardmore, Okla.; Arthur Corwin, representing B. H. Stephens, Magnolia Petroleum Co., Dallas, Tex.; W. M. O'Connor, the Atlantic Refining Co., Philadelphia; O. D. Donnell, Ohio Oil Co., Findlay, Ohio; D. S. Bushnell, Northern Group of Pipe Lines, New York; H. R. Straight, Empire Companies, Bartlesville; Edgar J. Marston, Texas Pacific Coal & Oil Co., Fort Worth, Tex.

**Division of Refining**

Division of Refining.—W. M. Irish, chairman, Atlantic Refining Co., Philadelphia; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York; R. P. Anderson, secretary, American Petroleum Institute, New York; Herbert Pratt, representing C. F. Meyer, Standard Oil Co. of New York, New York; J. Howard Pew, Sun Oil Co., Philadelphia; L. R. Crawford, Producers & Refiners Corp., Independence, Kans.; E. W. Isom, Sinclair Refining Co., New York; C. L. Henderson, Vickers Petroleum Co., Wichita; A. K. Whitelaw, Standard Oil Co. of Kentucky, Louisville.

**Division of Marketing**

Division of Marketing.—Henry M. Dawes, chairman, Pure Oil Co., Chicago; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York; Paul E. Hadlick, secretary, American Petroleum Institute, New York; Roy B. Jones, Panhandle Producing & Refining Co., Wichita Falls, Tex.; W. T. Holliday, Standard Oil Co. of Ohio, Cleveland; H. H. Earhart, White Star Refining Co., Detroit; W. V. Hartmann, Gulf Refining Co., Pittsburgh; J. W. Carnes, Sinclair Consolidated Oil Corp., New York; R. D. Leonard, Atlantic Refining Co., Philadelphia; Allan Jackson, Standard Oil Co. of Indiana, Chicago; H. A. Wilkinson, Standard Oil Co. of New York, New York; L. B. McCammon, Transcontinental Oil Co., Tulsa; Wiley Moore, Wofford Oil Co., Atlanta, Ga.

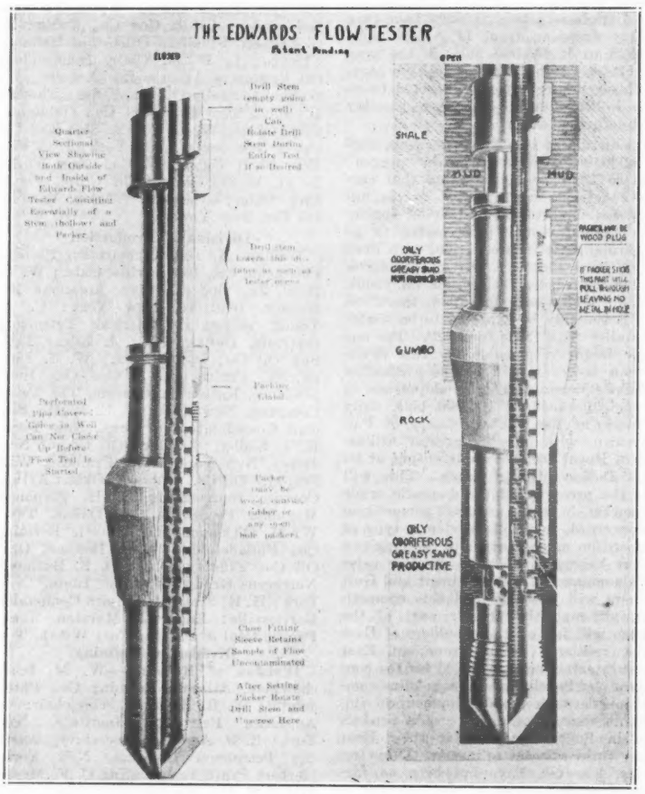
# Sand Testers Essential Equipment

## Excellent Results in Determining Condition in Drilling Wells Have Been Obtained by the Use of This Tool

By J. D. Thomson
Geologist and Petroleum Engineer

Petroleum engineers, drilling superintendents, contractors and drillers, when approached on the subject of testing tools, have approximately the same ideas. "It sounds extremely interesting, but is it practical? Is a drill stem test accurate? Will it endanger the hole? What per cent of tests are actually successful?" As a whole, the doubt expressed by the answers to these questions have more than offset the advantages of saving a string of casing and the consequent retention of a larger gauge hole.

Let us start with a definition: A testing tool, drill stem tester or sand tester, is any tool which, when run on the bottom of the drill pipe, seals off the mud in the annular space, outside the drill pipe, by means of a packer or lead seal. A valve on the inside of the tool may then be opened to admit a portion of the fluid, in the formation to be tested, into the drill pipe. After the valve has been open a sufficient time for an indicative test, it may be closed and the tool and drill pipe pulled from the hole.




The use of a testing tool is comparable to running casing, as follows: The drill pipe acts as the casing, the packer or lead seal acts as the casing seat, and the valve or valves, by means of which the tool is opened, act as the control head or "christmas tree." Additional gate valves may be placed on the drill pipe at the surface to facilitate control of a high pressure or volume of gas or oil. The entire idea of testing tools is to permit testing a great many horizons with the least amount of casing possible. This makes it possible to start a deep test with a small sized hole and still test every possible producing horizon.

### Use Not Dangerous

The use of a testing tool is not necessarily as dangerous as it at first seems, if the proper precautions are used. This applies to the danger of sticking as well as blowing out. A tool of the type which may be circulated through while closed, is less dangerous to run than most fishing tools. A good reliable quick acting blow-out preventer should always be used. If the well starts to blow out, the blow-out preventer should be closed, the "kelly" run on and pump pressure applied until the well is "killed," and the drill pipe can be safely pulled from the hole.

Every operator knows the ancient tale of the misleading core: A promising looking sand showing oil is cored. Under a silver nitrate test it shows some salt, but practically all cores do, either because of the salt water in the rotary mud, or because of handling. The silver nitrate test is a very delicate one and will indicate salt in very small quantities. The operator comes to the natural conclusion that the salt came from the hands of the driller, crew or chemist, or from the rotary mud, and sets casing. He bails salt water and is faced with two possible conclusions, first, that the sand contains salt water, and second, that he has lost a casing seat. He can then either set another string of casing, if his hole permits, and risk wasting it, or he can drill ahead and risk passing up a possible producing sand.

During the early days of the Oklahoma City Field many wells bailed salt water in the upper horizons, with the consequent waste of money, time and casing. This was partially due to the uncertainty and the lack of knowledge concerning the deep horizon, from which the Indian Territory Illuminating Oil Co.'s No. 1 Oklahoma City was producing. However, the cores recovered were misleading, in that they appeared to be from a sand capable of producing oil and gas.

On the other hand, many horizons capable of producing oil and gas, are passed up, due to unrecovered or misleading cores. Soft sands are not easily recovered in a core barrel. Sands with streaks or breaks of gumbo often give a core that is predominantly shale or gumbo.

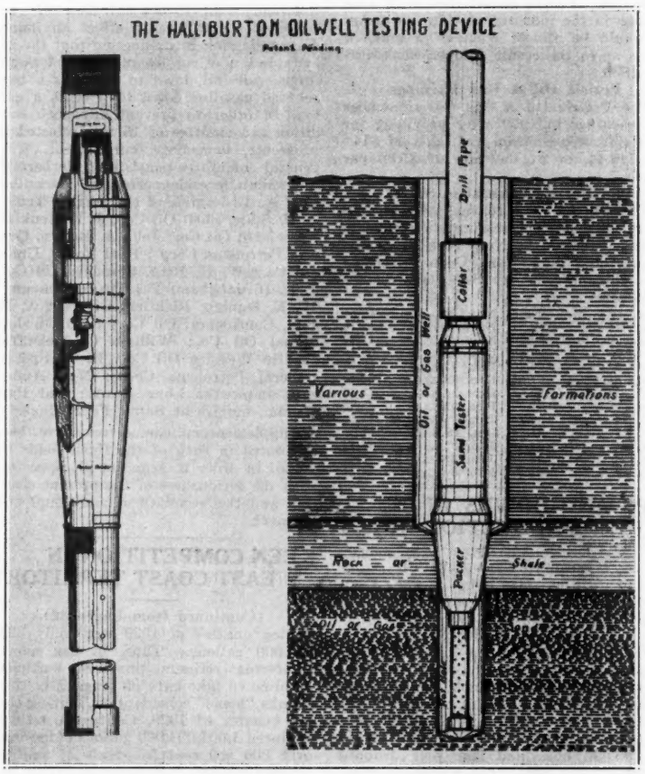
### Arkansas Example

The deep sand discovery well of the Champagnolle Field, Union County, Arkansas, was an interesting example of this. This well, the Pure Oil Co.'s No. 1-A Gregory, cored in what the driller thought was sand, from 3,125 to 3,139 feet, yet only recovered about 6 inches of oil sand along with 6 feet of poor looking bentonitic sand and shale. Had not a test been run on this sand casing would never have been set. The test showed approximately 1,500 bbls. of oil and a million cubic feet of gas per day. With 6¼-inch casing set and flowing through two 1-inch chokes, this well made approximately 2,000 bbls. of oil and 1,500,000 feet of gas in the first 24 hours.

It is interesting to note the prominent part played by these testing tools in the development of the field. Due to the lenticularity of the Gregory or deep sand, practically all wells were tested before setting casing. Thus if a well had tested and shown oil in either the Graves, Blossom, Woodbine or Crane sands above the Gregory sand, and missed the production in the Gregory sand, it could be plugged back to one of these upper sands and make a well. The discovery well itself was tested in more than 10 different horizons. One well, the Pure Oil Co.'s No. 1-B E. F. Gregory, tested over 20 horizons from 2,400 to 4,000 feet. The entire amount of casing used in this well was a 160-foot string of 12½-inch surface casing.

Because of the proximity of the Gregory sand to a water sand and because of the softness of the intervening gumbo, it was very difficult to obtain a casing seat on the Gregory sand. Operators were never sure whether a well making salt water had lost a casing seat or not unless the well had been previously tested. Samples of all waters encountered with the testing tool were saved and analyzed. By comparison of these analyses with the analysis of the water which was coming from the well, its origin could be readily determined.

Southern Arkansas and northern Louisiana are perhaps the home of the testing tool, as there conditions are such as to promote their use. This area produces from the Cretaceous and is about midway between the hard drilling Paleozoics of Oklahoma and Kansas and the softer, caving, Tertiary formations of the Gulf Coast. Small, short-lived gas pockets are found in nearly every well. This, in addition to the soft caving formations, prohibits the use of cable tools. So general has the use of testing tools become that there is seldom, if ever, a case of a well bailing salt water. They are always tested previous to setting casing.




### Method of Testing

The testing procedure in Arkansas and Louisiana is approximately the same. Most testing tools require a "rathole" or small gauge hole drilled ahead of the regular gauge hole. The "rathole" can be made with a small bit or with a core barrel, preferably with a core barrel. After a formation has been found by sample or core that it is advisable to test, the "rathole" is reamed down to a desirable seat, close to the top

of the sand. This reaming is done with a diamond pointed bit to shape the seat for the packer and avoid damaging it when the tool is seated and opened. The measurements should be carefully checked before reaming to avoid any error as to the position of the tool while testing and as to the formation being tested. Lastly, the tool is carefully examined to make sure that the valves and packer are in good shape. The success of the test depends, for the most part, on the careful conditioning of the tool and hole. After the tool is seated, it is allowed to remain open long enough to flow, if possible. If the well did not flow, the tool should remain open long enough for the fluid to enter the drill pipe and build up an indicative fluid height; a matter of from 5 to 15 minutes. The tool is then closed and pulled from the hole, retaining a sample of whatever fluid was entrapped in the drill pipe.

The three tools described in the following paragraphs are ones with which the writer is most familiar. However, there are other tools, which are probably just as reliable and have just as many advantages.

The Johnston formation testing tool is manufactured by the Johnston Formation Testing Tool Co. of El Dorado, Ark. This tool consists of the following: A canvas, balata or rubber packer superimposed on a length of $5\frac{3}{16}$-inch hydraulic pipe. Extending $2\frac{1}{2}$ feet below the packer is a section of $2\frac{1}{2}$-inch perforated hydraulic pipe. This pipe opens inside the tool directly on the primary valve. This valve is of the drop and seat type and is held closed by a heavy spiral box-car spring. It requires from 2,000 to 4,000 pounds weight on the tool to compress this spring and open the valve. There is a bypass through the primary valve which is closed by an emergency valve. This emergency valve consists of a simple ball and seat, upside down and held closed by a spring, which is adjustable. The weight of from 100 to 4,000 feet of rotary mud is sufficient to open this valve and permit the mud to be pumped through the tool, even though the primary valve be closed. Above the primary valve and at the top of the tool, is the secondary valve. This valve is a trip valve, and can be opened by dropping a "go-devil" on it from sufficient height. This valve is for the purpose of keeping the tool closed and the drill pipe free from mud, even if the primary valve is opened by cavings or a tight place while the tool is being run in the hole.

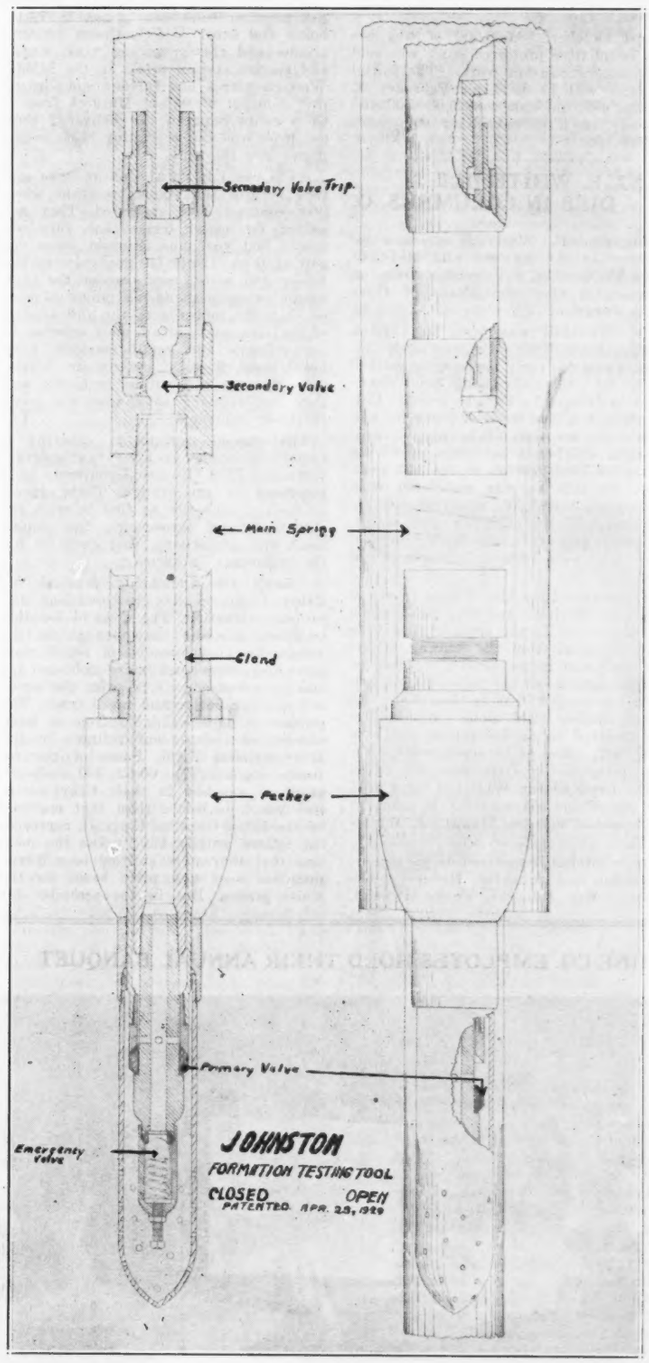
To use this tool condition the seat with a diamond pointed bit and wash out the "rathole" with a small fishtail bit or core barrel. Adjust the valves according to the depth of the hole. The deeper the hole the tighter these valves should be adjusted, so that it takes more weight to open the primary valve and more force to open the secondary valve. The tool is screwed on the bottom of the drill pipe and run in the hole in the usual manner. When the seat is reached, the measurements should be checked to be sure that the tool is on the seat and not on cavings. Without pulling the packer from the seat take up the stretch in the drill pipe and drop the "godevil" inside the drill pipe. When the jar of it's striking the trip on the secondary valve is felt, release the brake and allow the full weight of the tool to rest on the seat. The tool is now open and care should be taken that the fluid on the outside of the drill pipe does not go down. This would indicate that the seat was leaking, and would fill the drill pipe with mud and ruin the test. If the seat leaks pull up the tool at once and try getting another seat by dropping the tool a short distance. If the fluid still goes down, pull the tool from the hole and condition the "rathole" and seat for another test.

As this tool may be pumped through while closed, the procedure in case of sticking or prospective blow-out is the same as with an ordinary bit. The packer on this and practically every other tool is placed so as to stand a very great pressure upward, but to pull off readily under a downward pressure. It is customary for testing tools to stick just a little when first pulled on. If a moderate strain is held on them for about a minute, they will spring from the seat without any further pull being applied. If, after a minute or so the packer still sticks in the seat, pull a little harder and pull it off. This will, however, necessitate going in the hole to drill it up and wash it out of the hole.

### Another Tester

The Edwards Flow Tester is manufactured by the Houston Engineering Co. of Houston, Tex. This is the valveless testing tool and consists principally of a hollow stem which is fitted into a larger hollow stem, on which is superimposed a wood, rubber or canvas packer. The smaller stem is perforated and bull plugged on the bottom end. The bottom of the inner stem is threaded into the outer stem with lefthand threads. When the inner stem, which is screwed directly on the bottom of the drill pipe, is turned to the right it is disengaged from the outer stem and can drop down about 2 feet, exposing the perforations. The fluid in the sand can then pass through the perforations into the inner stem, and on up into the drill pipe. To close the tool, it is only necessary to pull up on the drill pipe, thus pulling the perforated inner stem up inside the outer stem.

To run this tool, condition the "rathole" and seat as with the Johnston Formation Testing Tool. Run the tool into the hole and seat the packer firmly in the top of the "rathole." Leave some of the weight of the drill pipe on the tool and rotate to the right; after a few turns the drill pipe will drop a few inches, giving notice that the tool is open. Keep rotating and let the tool down about 2 feet. The mud around the drill pipe will not be lowered unless the seat is leaking. After the test pull up the drill pipe about 2 feet and the tool is closed. If desired, the inner stem may be threaded back into the outer stem by turning the drill pipe to the left.




The Halliburton oil well testing device is manufactured by the Erle P. Halliburton Co. of Duncan, Okla. This tester consists of a tapered canvas or rubber packer below which is a length of $3\frac{1}{2}$-inch perforated pipe. This perforated pipe runs through the packer and opens inside an outer shell of $5\frac{5}{8}$-inch hydraulic pipe. This shell is closed by a steel encased stopcock which is geared to the packer so that by turning the outer shell a quarter of a turn to right the valve is opened. The outer shell rests on ball bearings and thus turns readily. There are two packing glands which prevent the tool from leaking; one is placed at the top of the outer shell, and one at the bottom. The gears of the stop cock are packed off from the rest of the tool to keep out sand or cuttings which might interfere with the action of the gears. To close this tool after it has been open it is necessary to turn the shell an additional quarter of a turn to the right.

To run this tool, condition the hole as with the Johnston and Edwards tools. Condition the tool by examining and replacing the packer if worn. Examine the stop cock and gears and see that they are not worn, are free from sand or grit and well lubricated. Clean and lubricate the bearings on which the outer shell rests. Examine all the packing glands to see that they are tight and well packed. Make up the tool on the lower end of the drill pipe and run the tool and drill pipe in the hole. When the packer seats in the top of the rathole, permit all of the weight of the drill pipe to rest on the tool, then turn the drill pipe one-quarter turn to the right. The tool is now open and should be allowed to remain open until the operator is satisfied that an indicative test has been had. When the test is finished, turn the drill pipe an additional quarter turn to the right and the tool is closed and may be pulled from the hole.

### Conclusions

In conclusion, the following points appeal to the writer as being the most important in the successful operation of testing tools:

The careful selection of a tool seat from an examination of cores. This will take into consideration two qualities: First, the seat should be firm enough to withstand the weight of the drill pipe. With a tool of the type that requires turning in order to open, a soft, incompetent seat will allow the packer to turn on the seat, without enough friction to open the tool. Second, the seat should be as close as possible to the top of the formation to be tested. This will prevent caving in the "rathole," which results in a false test or no test at all.

Necessary precautions always should be taken to prevent a blow-out. A reliable, quick-acting blow-out preventer is sufficient for this purpose. Care should be taken to keep the hole full of rotary mud while pulling the tool and drill pipe. It is an excellent idea to have a good high-test gate valve below the blow-out preventer, on the surface casing, to prevent a blow-out, while the drill pipe is out of the hole.

Both the tool and the "rathole" should be carefully prepared for the test. The tool by a renewal of the valves or the packer if they are worn. The seat should be carefully reamed with a diamond pointed bit and the "rathole" washed free from cuttings with a small bit or core barrel.

All tools have a tendency to cave or score the hole immediately below the seat. This is partially due to the inrush of rotary mud when the packer is lifted from the seat, and partially due to the tendency of the well to "gut" itself under the partial vacuum of flowing. Casing should never be set on the same seat that was used for the test. Reaming a foot or two is generally sufficient to get below this cave or score.

The measurements should be carefully checked. It is of little use to run a carefully prepared tool into a well conditioned hole if the seat is placed too high or too low, due to incorrect measurements.

A sample of every fluid which is encountered, saved and analyzed, will be invaluable to a geological or petroleum

engineering department for correlation purposes. In the development of a field, the knowledge of whether a water is bottom water or water from behind the casing, is of great assistance.

It is an excellent idea to measure all gas volumes encountered with testing tools. This may be done with a manometer, using a 4-foot length of drill pipe, the same size as that used in the well, but without upsets or tool joints. The gas volume together with a careful estimate of the volume of oil, will give an excellent idea of the design and size of christmas tree, chokes, lead lines and storage tanks, which will be used when the well is put on production.

## LONE STAR GAS CORP. TO SHOW MORE EARNINGS

The annual report of the Lone Star Gas Corp. probably will show earnings for the year substantially in excess of the estimates made a few months ago says a Pittsburgh dispatch to the Wall Street Journal. Last October, L. B. Denning, president of the company, said that he expected net profit for the year to be about $8,250,000 before providing for depreciation and depletion. There are 3,595,325 shares outstanding. Due to the acquisition of a large number of additional properties during the past year and the possibility that the company may make a change in the depreciation policy, it is impossible to estimate the depreciation to be charged off for the year before the final report is completed.

In 1928, the company showed net after all charges of $4,824,805, which was equivalent to $3.31 a share. This was nearly $1,000,000 in excess of the net profit of $3,829,901 in 1927.

The work of connecting older operations with newly acquired properties practically has been completed, but several years will be required to develop fully the new markets for gas opened by expansion into new territories. Officials believe that this will insure a steady growth in sales over a long period.

Recently, the corporation acquired all the outstanding stock of the Texas Cities Gas Co., doing the natural gas marketing and distributing in the cities of El Paso, Galveston, Waco, Paris and the town of Brenham, Tex., a controlling interest in the Guthrie Gas Co., all of the outstanding stock of the Council Bluffs Gas Co., the Northwest Cities Gas Co. and the Coos Bay Gas Co.

The annual report will show the property account to have been increased to more than $100,000,000. The number of connected meters served is more than 225,000. The population served is over 1,200,000 people.

A new 20-inch line from Petrolia to Fort Worth, Tex., a distance of 100 miles, was completed recently. The organization owns over 3,100 miles of main transmission and field pipe lines, 22 gas compressor stations and 10 gasoline recovery plants.

The extension lines to the Panhandle gas field, believed to be the largest producing section in the United States, have greatly expanded the organization's resources.

Last October, $8,000,000 of 6½ per cent cumulative preferred stock was sold to finance expansion work. The initial dividend will be paid on February 1. Funded debt amounts to $20,039,500 and minority stock of subsidiary companies to $503,100.

## BENJ. F. WHITEHILL DIES IN COLUMBUS, O.

Benjamin F. Whitehill, veteran oil producer in the Eastern and Mid-Continent Fields, died in Columbus, Ohio, on February 9 after an illness of three weeks duration.

Mr. Whitehill was born in Clarion County, near Knox, Pa., on July 11, 1856. From his early boyhood he worked in the oil fields, advancing from roustabout to driller. In 1886 he went to California and drilled wells at Newhall, and these wells are still producing. Returning from California he began producing oil on his own account in his old home state. In this he was associated with his brother, Joseph W., who still survives him and is living at Knox, Pa. Later, and for several years, Mr. Whitehill prospected and produced oil in southeastern Ohio.

In the year 1904 Mr. Whitehill moved to Indian Territory and began operations out of Chelsea in the shallow field. He was successful from the drilling of his first well and he acquired a number of valuable leases. At the time of his death he was interested in more than 400 wells in the shallow field alone. Mr. Whitehill operated as an individual until the year 1927, when he incorporated his various properties in Oklahoma and Texas in the name of the Whitehill Oil Corp., and placed the management of same in the hands of his son, Howard J. Whitehill.

Mr. Whitehill is survived by his widow, Catherine, and daughter, Helen C., Columbus; Mrs. Julia W. Funke, Pelham, N. Y., and Mrs. Phyllis W. Minister, Columbus, daughters, and Howard J. Whitehill, Tulsa.

## OKLAHOMA MARKET CONTINUES INACTIVE

(Continued from Page 38)

tract or are giving the buyers concessions under the weighted average prices as a basis for the contracts.

**Wide Spreads**

The abnormally wide spreads between the gasoline tank car prices in Oklahoma and other Mid-Continent refining groups and the prevailing tank wagon and service station prices in the Middle Western states has further complicated this contract situation. Margins from 6 to 8 cents between the delivered tank car price and the prevailing tank wagon prices are the rule.

As is usual in such situations the jobbers occupy the strong position when new contracts are suggested. They are asking for better terms than they obtained last year and in most cases are getting them. Contracts guaranteeing the jobber 4½ to 5½ cents under the tank wagon prices with no maximum margins so that the jobber gets the full benefit of the abnormal spreads now existing in the refinery and retail markets, have been closed. Some of the refiners believe these spreads will not be continued and they are refusing to change the basis for their contracts.

The special agreements carrying a variety of names such as "authorized," "franchise," or "licensed" contracts have increased in importance. These agreements are generally so tied in with exclusive agency agreements, free equipment and advertising, that there is little uniformity in terms.

Finally the increasing demand for Ethyl Gasoline aids in muddling the contract situation. The demand for this premium gasoline continues to be the outstanding development in retail markets and more and more jobbers are making arrangements to offer the product to their dealer and retail trade. The product is now available from a large number of independent refiners in the Mid-Continent Field. Some of the refiners are using a 60-62 400 endpoint grade of gasoline in their Ethyl Gasoline which is better than that required by the Ethyl Gasoline Corp. In contracts the sellers usually have taken the position that they were entitled to a 3-cent premium over any price based on the white grades. But in the scramble for outlets concessions of one form or another have been given even in these contracts.

**Gasoline and Naphtha**

So far as Oklahoma is concerned, the U. S. Motor gasoline under 5¾ cents appeared to have been absorbed the first of the week. Some of the lower priced material has been attractive to jobbers in a position to store and this buying probably will continue. Mose of the refiners were quoting over a price range of 6 to 6½ cents with a small movement reported at the top price.

The 60-62 400 grade was quoted from 6 to 6½ cents with a few sales under the low. The 64-66 390 was bringing a low of 6½ cents, and 64-66 375, 7 cents. Despite the low priced natural gasolines, the 68-70 350 and 360 endpoint continues to be sold over a price range of 7½ to 7¾ cents. Naphtha prices (450 endpoint) are unchanged at 6¼ cents. Some of the higher endpoint naphthas are being made by a few plants and are being sold under 6 cents. Some of the blenders are using these high endpoint grades rather than the 450 endpoint.

**Kerosene and Distillate**

The kerosene demand has improved over the past week, although still not considered active. The price range of 4 to 4¼ cents for 41-43 water white and 4¼ to 4¾ cents for the higher gravities has not changed. Refiners who make a specialty of kerosene for incubators state that the present demand points to a large consumption through the season.

Distillates continue sluggish. The price range of 3¼ to 3¾ cents for specification material has not changed although occasional sales at lower prices are reported. A few refiners are predicting a cold snap in the Middle West and North before the winter season ends which will cause many jobbers to get into the market again, resulting in a stronger market.

**Natural Gasoline**

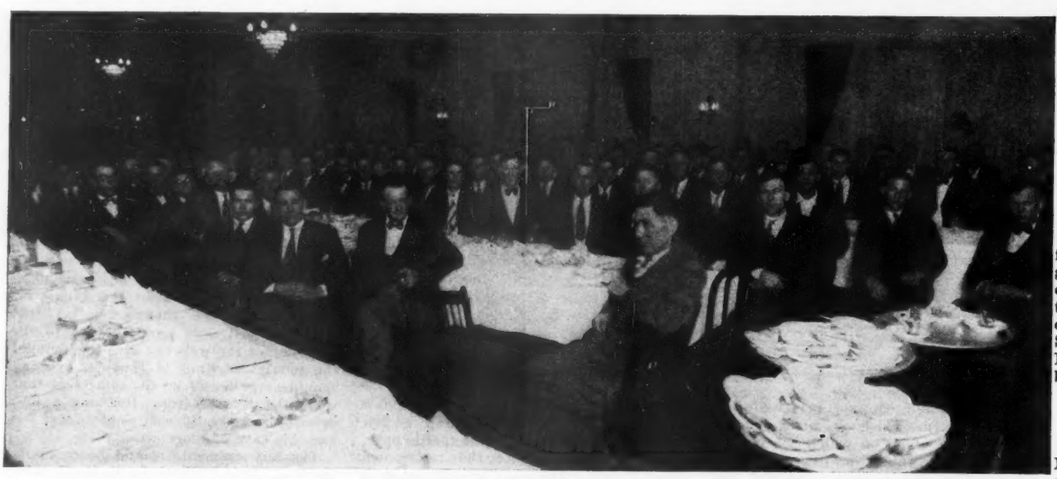
Natural gasolines were stronger over the week, trading being especially active in the Grade AA and BB grades the first of the week. The former grade was selling at a low of 5¼ cents and the latter was bringing 4¼ cents. The other grades were unchanged. Considerable buying has been placed for delivery over the month and several manufacturers are practically sold up until March 1. The heavy movement is to Gulf Coast buyers.

**Fuel Oil and Gas Oil**

The high gravity grades of fuel oil above 24 are off from 5 to 10 cents per barrel. The demand as previously explained is less and Oklahoma sellers who have enjoyed a strong market since October have been forced to reduce their prices. The lower gravity grades are steady in price with a fair demand.

Gas oils are more readily available in Oklahoma but prices continue fairly firm. Buyers state that they can buy the industrial grades in other areas on a basis of 2½ cents Oklahoma, but so far as known no Oklahoma refiner has sold at that price. The straw color, low cold test gas oils are easier and some of the refiners who had been quoting a high of 3¼ cents have reduced their prices.

## LUFKIN FOUNDRY AND MACHINE CO. EMPLOYES HOLD THEIR ANNUAL BANQUET



The Lufkin Foundry & Machine Co. officials were hosts to the 250 employes, besides friends, at the company's annual banquet in the ballroom of the Angelina Hotel, Lufkin, Tex. Entertainment was provided by local talent assisted by a quartet from the office which was "sent to the cellar" by a burlesque quartet composed of shop employes.

W. C. Trout, vice president and general manager of the company, acted as toastmaster. He commended the employes for their loyalty and efficiency, and announced a general wage increase. C. J. Rutland, safety engineer of the Texas Power & Light Co., of Dallas, Tex., spoke. The year 1929 was reported the most successful in the history of the organization with sales more than doubling those of any previous year since the company was founded in 1900.

## TANKER CONTRACTS AWARDED

The Spanish Petroleum Monoply ("Campsa") has awarded the contracts for building four new tankers which together will cost 40,000,000 pesetas. The contract for the 10,000-ton vessels went to the Cia. Euskal-luna, of Bilbao. The constructor Naval of Valencia, the Cia. Schevarriota, of Bilbao and the Union Naval de LeVante, of Valencia, will build an 8,000-ton vessel each.

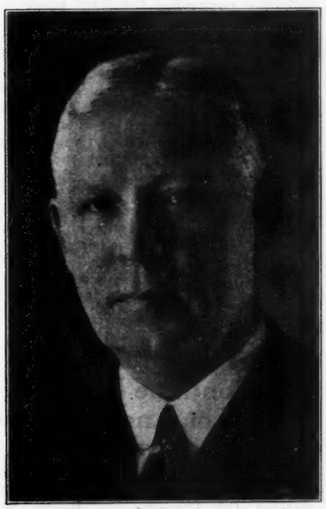
## KEROSENE LEVY SUSPENDED

A proclamation of the governor of Newfoundland, dated October 2, 1929, suspends the operation of Section 17 of the Revenue Act, 1925, until September 30, 1930, providing for the levy of additional duty on kerosene when imported from countries the fishermen of which are privileged to take codfish from Newfoundland waters and which levy duties on imported fish of Newfoundland origin.

# James K. Crawford, Nationally Known Oil Man, Dies in Tulsa

James K. Crawford, one of the best known oil producers in America, died at his home in Tulsa on Thursday, February 6. He had been in ill health a long time, but heart failure was the immediate cause of death.

Mr. Crawford had been connected with the oil business over 40 years and was one of a family which has won distinction in the industry both as producers and refiners of oil and in the manufacture of oil well equipment. He was born near Londonderry, in the north of Ireland, July 21, 1870. With his brothers and sisters he was brought to this country when a boy, the family settling for a short time in New York State after which they went to Bradford, Pa., where James K. entered the employ of Bovaird & Seyfang in the blacksmithing department. David Bovaird, senior member of



James K. Crawford

the firm, was an uncle to the young apprentice.

Crawford learned the blacksmith's trade, but decided to go into the field-operating end of the oil business and engaged himself as a tool dresser. Later he became a driller and then a contractor.

When war was declared on Spain in 1898, Mr. Crawford left a successful and growing business in West Virginia to enlist as a private in Company C 16th Pennsylvania volunteer regiment. He had already acquired what was considered a tidy fortune for a young man in those days.

After the brief war Mr. Crawford returned to West Virginia. Later he operated in Ohio and Illinois and then in the Electra, Texas, Field. Mr. Crawford moved to Bartlesville, Okla., from Electra and in 1913 was made director and general manager of the Sperry Oil Co., Crown Oil Co. and Crown Petroleum Co. Later with his brothers, John M. and David B. Crawford, he figured largely in the organization of the Oklahoma Producing & Refining Corp. of America, which took over a number of smaller organizations and the more important Osage-Hominy Oil Co. The Oklahoma Producing & Refining Corp. became a part of the Pure Oil-Ohio Cities merger and James K. Crawford then became the managing head of the Brothers Oil Co., owned by himself and two brothers and at the time of his death was president of the Quartet Oil Co. and secretary and treasurer of the Hillside Oil Co.

Deceased was a great lover of sport and was one of the owners of the Tulsa baseball club in the Western League for several years. He was widely known in baseball circles.

Mr. Crawford married Miss Mabel Nightengale in 1906 and is survived by Mrs. Crawford and six children, and by three brothers, John M. and David B., of Parkersburg, W. Va., and Joseph Crawford of Miles City, Mont., and two sisters, Mrs. Margaret Wallace of Tulsa and Mrs. Mary Eaton of Williamson, N. Y.

The funeral was held on Monday, February 10, from the First Presbyterian Church, Tulsa, and burial was made in Rose Hill cemetery in that city.

## PRACTICAL SUGGESTIONS IN FIRST AID TREATMENT

(Continued from Page 131)

these instructions even if the victim appears dead.

1. Free the victim from the circuit immediately; quickly release the victim from the current, being very careful to avoid receiving a shock. Use any dry nonconductor (rubber gloves, clothing, wood, rope, etc.) to remove either the victim or the conductor. Beware of using metal or any moist material. If both of the victim's hands are grasping line conductors, endeavor to free them one at a time. If necessary shut off current.

Begin at once to get the subject to breathe (resuscitation), for a moment of delay is serious. Use prone-pressure method for four hours if necessary or until a doctor has advised that rigor mortis has set in. Always look first to danger of yourself as to rescuing a person in danger so as to save him.

We have some instructions on how to use first aid when applying the iodine swab. If we could always be sure that both the portion of our skin which is cut or scratched and the tool or material inflicting the wound were perfectly clean, i.e., free from germs, we would never have to use such a thing as iodine to kill the germs which may lead to infection and possible blood poison but of course these ideal conditions are impossible except during a properly conducted surgical operation. Therefore, we must always use an iodine swab to guard against infection. Whenever the skin is broken and bleeding is slight or in case of a scratch, after the iodine has killed the germs we must prevent others from entering the wound by the use of a sterile compress, which is provided and which we have already discussed. Remove the iodine swab in the small container from the cardboard box, hold it with the slip cover at the top, pull the slip cover up just enough to expose the glass tube. Do not entirely remove the cover as it will provide protection for your fingers should the glass tube fail to break properly due to faulty manufacture. Keep the swab vertical and break at the scored line which you will see on the glass tube by a suddenly applied pressure with your fingers. Discard the cover and end of swab which were broken off. Tip that portion of the swab containing the iodine slightly so that the small glass tube applicator fills with iodine. Remove the applicator and with it work the iodine down into the wound, and paint the surrounding skin from the wound outward. Refill the applicator by dipping it in the iodine as many times as is necessary. In the case of a punctured wound such as that caused by a piece of wire, or a splinter, force the filled applicator down into the wound with a rotating motion and remove it slowly so that the iodine reaches the bottom of the wound unless the wound is slight.

## LOUISIANA PRODUCTION SHOWS LARGE GAIN

(Continued from Page 131)

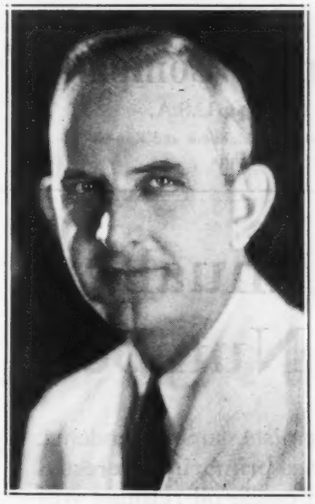
pletion of an extension of the Monroe-Baton Rouge line to New Orleans, Magnolia Gas Co.'s 20-inch line from Monroe-Richland to connection with the Waskom (Texas) Beaumont line, Memphis Natural Gas Co.'s line to Memphis and Arkansas Natural Gas Co.'s 20-inch line from Monroe-Richland to Shreveport and connection with the main line to Little Rock and Dixie-Gulf line to Houston and Port Arthur. The St. Louis and Atlanta-Birmingham lines were completed so late in the year as not to cut any considerable figure in consumption.

Of the total production, Monroe Field, in Ouachita, Morehouse and Union Parishes, produced 170,570,430,957 feet, compared to 157,561,267,107 in 1928, an increase of 13,009,163,849 feet and Richland Parish Field produced 42,017,061,570 feet, an increase of 32,916,625,000 feet over 1928. This latter pool did not really get into commercial production or attain an advanced stage of development until pipe line construction made it available on a large scale in 1928, although its discovery well was drilled in 1926 and there was some development during 1927 and much more in 1928.

Lately a prospective "second sand" has been tapped in both the Monroe and Richland Fields but performance of the wells so far has not been such as to warrant much more exploration. There is no necessity for it at present nor, with the reserves in sight, for the next several years. Consequently, whatever deeper development there may be during 1930 will be for the sake of information—insurance against the future—and not for the sake of the deeper gas. There is plenty of gas in the present horizon to last for some time without going to the expense of drilling deeper holes.

## LEWIS AND BURTON NOW OFFICERS OF RESISTCOR

At a recent meeting of the directors of the Resistcor Engineering Corp., Tulsa, Pat S. Lewis was elected president and treasurer of the company and manager of the equipment division, and K. H. Burton was elected vice president and manager of the coating division.



Pat S. Lewis

Mr. Lewis joined the company in July, 1929, to organize the equipment division and since then he has made 42 factory connections on various pieces of equipment for tractors and oil field machinery. Before joining Resistcor, Mr. Lewis for eight years was with the Ryan Motor Co. in Tulsa as manager of the tractor and equipment division, with the result that he has a wide acquaintance among oil and pipe line companies. H. W. Beardsley, who was manager of the service department in Ryan's tractor division, went with Mr. Lewis and holds the same position with Resistcor that he formerly held with Ryan. He is known throughout the Mid-Continent Field for his familiarity with oil field and pipe line machinery.

Mr. Burton was with Hill, Hubbell & Co. for four years and with the Wailes, Dove-Hermiston Corp. for several months before he joined Resistcor and helped to organize its coating division. Mr. Burton is recognized as an authority in this field. Mr. Burton took with him Roy M. Taylor, who was service superintendent for Hill, Hubbell & Co., and Mr. Taylor now is serving in the same capacity for Resistcor.

The manufacturing plant of the Resistcor Engineering Corp.'s coating division

K. H. Burton

is in Memphis, Tenn. The main office is in the Oklahoma Natural Gas Building, Tulsa.

## NEW POOL NORTH OF MOUNT PLEASANT, MICH.

MUSKEGON, Mich., Feb. 11.—Belief that the Wittmer Oil & Gas Co. has opened a new oil pool north of the city of Mount Pleasant and several miles northwest of the present proven Mount Pleasant Field was strengthened by reports which reached here today of a new oil producer struck by the company.

The new well is No. 1 Sarah Cashen, NW SW Section 30-15n-3w, Denver Township, Isabella County. It is located a short distance east of the Wittmer company's No. 1 West well, SE NE Section 25-15n-4w, Isabella Township, Isabella County, which was brought in several months ago with an initial daily production of 30 bbls. from the Dundee formation.

The new well is reported to have made about 100 bbls. in 12 hours at a depth of 3,580 feet.

The two wells are near the villages of of Rosebush and Leaton, respectively.

A dry gas well with an estimated flow of 2,500,000 cubic feet of gas daily was struck Saturday on a wildcat location about 14 miles west of Mount Pleasant, according to reports received here today from Lansing.

The well is believed to be the Isabella Oil Development Co.'s No. 1 M. D. Keeler, NW NW Section 10-16n-6w, Broomfield Township.

Gas was struck in the Marshall formation at 1,325 feet. The well is more than 20 miles west of the proven Mount Pleasant Field and about half way between the cities of Mount Pleasant and Big Rapids.

Daily production of the Mount Pleasant Field is now about 7,500 bbls., of which not more than 50 bbls. is Traverse production and the rest is from the Dundee limestone.

The Muskegon Field is making about 5,500 bbls. of Dundee and 350 bbls. of Traverse oil daily.

The Saginaw Field is producing about 230 bbls. a day.

### PRICE STABILITY EXPECTED

The German Bitumen-Convention, formerly opposed by a strong group of outsiders, has succeeded in enlisting that group in its ranks so that price stability at least may be expected. The cartel agreement covers 1930 only, with reservations for withdrawals.

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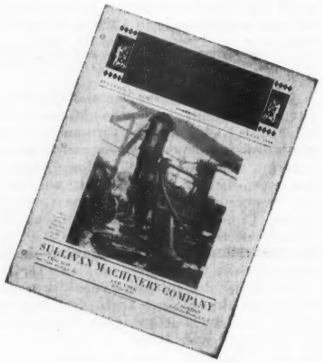


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# The Annual Refinery Number

Executives, engineers, chemists, superintendents, sales managers and all those primarily interested in the numerous phases of crude oil refining will find information of genuine value to them in "The Annual Refinery Number" of The Oil and Gas Journal, which will be published March 6, 1930.

As in previous years, "The Annual Refinery Number" will contain the *Survey of Petroleum Refineries,* containing the personnel of all refineries, as well as up-to-date data showing types, capacities and locations of all plants in the United States.

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The OIL and GAS JOURNAL

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BOX 2004—TULSA, OKLA.

## Late Fields

(Continued from Page 50)

No. 3 Fortson, NE cor. SE NE, Section 24-11-3w, blew in making 17,081 bbls. in 15 hours from the Arbuckle lime at a total depth of 6,521 feet. The top of the Arbuckle was found at 6,038 feet.

Coline Oil Co.'s No. 5 Warren, SE cor. SW, Section 18-11-2w, made 5,325 bbls. of oil in 24 hours. The well is producing from the Arbuckle lime at 6,125 feet, and drilled to a total depth of 6,523 feet.

In the south end of the pool, the Indian Territory Illuminating Oil Co.'s No. 1 Jones, NW cor., Section 31-11-2w, cored a sand at 6,447-72 feet, showing oil. The total depth of the test is 6,518 feet.

Tom Slick Oil Co.'s No. 1 Banta, SE cor. SW SE, Section 18-11-2w, made 2 bailers of water per hour and a showing of oil at a total depth of 6,800 feet. The test has not yet reached the Arbuckle lime.

Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1 Grounds, in Section 22-9-5, was shot with 15 quarts, and swabbed and flowed 3,515 bbls. in 19 hours from the Wilcox sand at a total depth of 4,214 feet. The well was making 250 bbls. per hour Tuesday, February 11. It is a wildcat, 1½ miles south of the Earlsboro Pool.

Magnolia Petroleum Co.'s No. 1 Grounds, NE cor. NW Section 23-9-5, another wildcat a mile and half south of production in the Earlsboro Pool, is pumping 100 bbls. a day. The new well is pinched under an agreement with the offset operators.

The production in the East Earlsboro Pool is 23,970 bbls. from 125 wells on the gauge of February 11 at 7 a.m.

East Little River production on February 11 at 7 a.m. was 19,749 bbls. from 54 wells.

Skelly Oil Co.'s No. 3 Decker, in Section 16-7-4, in the St. Louis Pool, made 1,895 bbls. in 16 hours from the Simpson at 4,109-48 feet. The next 20 hours the well made 1,500 bbls. and then went dead. The owners made a swabbing test.

The potential production of the Konawa Pool, in Township 6-6, Seminole County, is estimated to be 5,500 bbls. a day. The actual production on February 11 was 2,660 bbls. from seven wells.

## SEES NO PROSPECT FOR IMMEDIATE RESTORATION

(Continued from Page 50)

a marked disadvantage with crude oil selling at levels far out of proportion to their value as a source of raw material for gasoline and other products. The principal need of the petroleum industry, he declared, is further curtailment of output of both crude oil and gasoline with a marked curtailment in the production of the latter to enable the liquidation of the heavy stocks now held in storage. Until substantial cuts have been made in refinery holdings of gasoline and production of both crude oil and gasoline to levels approximating consumption the outlook for the crude oil market is most uncertain he indicated.

"In short, the recent reduction in posted prices for crude was an economic necessity made necessary by continued overproduction and consequent lowering of the market value of crude petroleum."

It is indicated that the Standard Oil Co. of New Jersey believes its position in the matter of crude oil prices has been fully clarified by announcements previously made and that no further statements regarding its views regarding the crude price basis will be forthcoming in the near future.

## PRORATION PLAN FOR VOSHEL, KANS., POOL

A meeting of operators in the Voshel Pool, in McPherson County, Kansas, was held in Wichita, Kans., February 6, and after considering the situation thoroughly, decided upon the following plan of proration of production in that pool.

Due to limited pipe line facilities in the Voshel Pool, it was decided that the present producing wells be allowed to produce 25 per cent of their potential production for the first proration period. from February 15 to March 1. A number of new wells are expected to be completed on or about February 15, and the failure of one pipe line to reach the new field by that time, it was inadvisable to allow greater than 25 per cent production for first period.

All wells in the area were numbered in two classes, "A" and "B" for the purpose of taking the potential production tests. Companies owning class "A" wells may open them at 7 a.m. February 15 for a 24-hour test, and the class "B" wells may be opened February 16, for a 24-hour test, both for the purpose of determining the potential production.

Operators owning completed wells at the present time are given the option of opening the wells for a new 24-hour gauge on either February 15 or 16, or of taking the initial production test made when the well was completed as the basis for computing the first proration period allotments.

Operators drilling in new wells after February 7 will be allowed a 72-hour test to determine the potential production of the well, after which the well will be prorated according to the proration governing the field at that time.

All wells will be opened to determine a new potential on the first and second and the fifteenth and sixteenth day of each month.

According to the operators' agreement entered into at the meeting on January 21, 1930, no wells are to be given shots or placed on the air or gas lifts during the duration of the present proration agreement which extends until March 15, 1930.

## Conservation Board To Continue Program For Another Year

By Charles E. Kern

*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, D. C., Feb. 8.—The Federal Oil Conservation Board will make a further study of foreign production and particularly the question of imports of oil as affecting American interests, according to a statement made by Edward C. Finney, solicitor of the Department of the Interior and chairman of the oil committeee of the department, when recently testifying before the House Committee on Appropriations.

At this hearing Mr. Finney said the large oil corporations of the United States have worked with the Federal Oil Conservation Board "very nicely." Enactments by both California and New Mexico legislatures for conservation of gas have conformed with the recommendations of the oil board.

Mr. Finney stated that during the next year or two the efforts of the oil board should be continued in order to carry out its work of the past five years which is the reason for the request to continue the work of the board during 1931. The objects sought by the Federal Oil Board, which the board itself believes may be accomplished, according to Solicitor Finney's statement before the House Appropriations Committee, are the following:

"Enactment of uniform laws, or as nearly uniform as possible, for conservation of oil and gas and the prevention of waste, through state legislation, with the board co-operating and waging an educational campaign.

"Unit development and operation of oil and gas fields. That has been proposed, and New Mexico already has passed an act of that sort.

"Prevention of overproduction, with attendant economic waste.

"Further study of the conservation and use of oil and gas resources.

"Further study of the foreign oil production, and particularly the question of imports of oil as affecting American interests."

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# Of Interest to Sales Departments

## Wide Variation in Demand for Three Principal Products

A report for 1929 compiled by the Minnesota State department having charge of oil inspection and gasoline tax collection shows the wide variation in the consumption of the three principal petroleum products imported in the State. The three products are gasoline, kerosene and distillate and the monthly imports are given in the following table:

| Month— | Gasoline | Kerosene | Distillate |
|---|---|---|---|
| January ... | 18,969,295 | 2,272,230 | 4,792,017 |
| February .. | 13,576,511 | 1,885,308 | 4,607,162 |
| March ..... | 23,167,500 | 3,656,953 | 2,517,390 |
| April ..... | 29,886,051 | 3,530,263 | 905,503 |
| May ..... | 34,950,193 | 4,203,836 | 1,087,221 |
| June ..... | 31,929,332 | 2,983,246 | 494,123 |
| July ..... | 38,566,267 | 2,996,875 | 674,218 |
| August .... | 43,675,655 | 5,161,155 | 1,768,351 |
| September . | 35,380,808 | 5,314,956 | 4,213,208 |
| October ... | 36,960,338 | 4,167,246 | 4,081,208 |
| November . | 29,123,643 | 3,392,922 | 4,013,479 |
| December .. | 21,717,866 | 1,958,782 | 7,502,153 |
| Total ... | 357,903,459 | 41,523,772 | 36,656,033 |

It is believed that these monthly figures are a fairly accurate reflection of actual consumption of these products and are representative of conditions in other northern states of the Middle Western area. It will be noted that there is a wide seasonal variation in the consumption of the three products. For instance, the gasoline demand in February is only about one-fourth as great as in August, which is the month of greatest consumption.

In kerosene, the demand is heaviest in August and September with May and October the next two best months of the year. Activity in the agricultural regions largely accounts for variation in the kerosene demand. The late summer and early fall months is the season when tractors are widely used for plowing and other farm work. Since there is very little farm work under way during the winter months, December, January and February are the months with the smallest kerosene demand.

Considerable distillate is used as tractor fuel and the remainder is consumed as furnace oil. The latter demand is naturally greatest during the winter months and this explains the heavy shipments in December, January and February.

### CLOSE AVIATION CONTRACT

The signing of a five-year contract for all aviation gasoline and lubricating oils to be used by the Mid-Continent Air Express, was announced yesterday by C. M. Fuller, president of the Richfield Oil Co. of California. At the present time, Mid-Continent is operating 14-place, tri-motored Fokker planes between Dodge City, Kans., Wichita, Kans., Pueblo, Colo., and Albuquerque, N. M., and is planning to extend its operations in the spring, north to Denver and south to El Paso, Tex.

Mr. Fuller also announced the closing of a contract with the West Coast Air Transport Corp., operating between San Francisco and Seattle, for virtually all its lubricating oil needs, as well as additional contracts with the United States army for the delivery of Richfield aviation gasoline to Crissy Field, San Francisco, and Tucson, Ariz., Airdrome, for all army needs at these points to June 30, 1930.

### MINNESOTA JOBBER MEETING

The Minnesota division of the Northwest Petroleum Association will be held at the Radisson Hotel, Minneapolis, Minn., February 19 and 20. The headquarters of the association are 638 Builders Exchange, Minneapolis, Minn.

## CODE ENFORCEMENT IN NEBRASKA BRINGS VARIETY OF COMPLAINTS

By C. M. Sutherland
Secretary, Independent Oil Men's Association*

If a jobber could drop in at the headquarters of the Code Bureau in Lincoln and see the volume of mail and hear the phone calls, he could realize that the Code of Ethics is in operation in Nebraska. It seems to take a long time for every jobber to realize just what the rules mean. Many complaints have been registered to the chairman and every complaint has been carefully investigated, either by mail, wire, or phone. In many instances misunderstandings have been cleared up and the differences settled to the satisfaction of all concerned.

There is one phase of the marketing conditions in Nebraska that stands out more prominently than anything else and that is, "things reported that are not so." It seems to be one of the besetting sins of the petroleum industry. The havoc created by dame rumor and malicious gossip is everywhere apparent. Suspicion and distrust seem to be the daily manna of many. The other fellow is always the crook. Just a short survey of the trend of the marketing policy of the petroleum products in the state should impress every small jobber with the importance of having confidence and co-operating with his competitor. The Code must be thoroughly read and digested and the spirit of the co-operation must prevail.

Here are some of the most numerous violations:

First. Commercial Discounts. The state committee on November 8, at the Hotel Paxton, Omaha, voted unanimously (some present refrained from voting) that commercial discounts would not be permissible in Nebraska. This was a bold statement and takes stamina to withstand the onslaughts of those who think they are entitled to a better price than their neighbor. Contractors, bus men, truckers, and ditch diggers with one accord assailed the jobbers all along the line to break down the morale of the jobbers so that they could get a discount at the service station. The "general song and dance" given a jobber who resisted their discounting efforts was that "we can get it anywhere because every jobber is making us a discount price."

(Continued on Page 152)

*Mr. Sutherland is chairman of the Nebraska Division of the Code of Ethics.

### FRENCH MOROCCO CONSUMPTION

WASHINGTON, D. C., Feb. 8.—During recent years there has been a rapid growth in the consumption of petroleum products in French Morocco, states Dr. John W. Frey, Petroleum Section, Minerals Division, Department of Commerce. The imports of gasoline, which amounted to 352,618 bbls. in 1928, almost doubled in the period 1925 to 1928, and kerosene increased almost threefold with 121,660 bbls. in 1928.

The imports for the first six months of 1929 were gasoline, 183,864 bbls; kerosene, 76,400 bbls.; fuel oils, 20,446 bbls., and 21,406 bbls. of lubricating oils, according to figures furnished by Assistant Trade Commissioner, Earle C. Taylor, Paris.

### WILCOX BUYS FRANK STATIONS

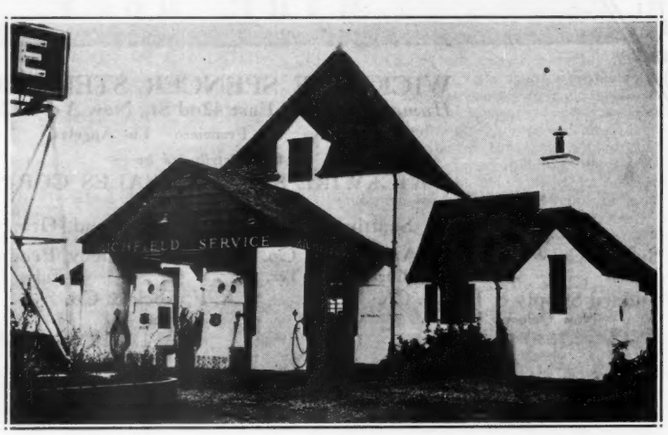
The H. F. Wilcox Oil & Gas Co. of Tulsa last week further expanded its retail market outlets with the purchase of the five service stations of the E. B. Frank Oil Co. at Wichita, Kans. The company announced that it intends to build additional stations at that point in the near future. The company recently purchased 15 stations of the Security Petroleum Co. at Oklahoma City, Okla.

## USE NORMAL DESIGN IN SERVICE STATION

The accompanying picture shows a service station of normal design which the Richfield Oil Co. is building in Oregon and Washington in connection with its aviation beacons. The station is located at Roseburg, Ore., and other stations of similar design are to be built immediately. In California, a Spanish-American type of architecture has been used in connection with the aviation beacon program.

Running hot and cold water is provided in the rest rooms and during the winter season the waiting rooms for both men and women, which have comfortable chairs and tables with reading matter, are heated. During warm weather each station has in operation a refrigerator unit supplying cold drinking water.

The Highway Communities, Inc., is preparing to erect roadside inns and stores with restaurant accommodations. The first of the chain will be at Barstow, Calif., and Tacoma, Wash.




## Value of Exports During 1929 More Than $500,000,000

The United Kingdom, France and Canada, in the order named were the largest buyers of refined products from refiners in the United States according to a report which was released last week by the Department of Commerce at Washington, D. C. The purchases of these three companies accounted for approximately 40 per cent of the total exports.

Total exports for 1929 showed a gain of approximately 8 per cent over 1928 with a value of $531,172,865 which was greater than any previous year with the exception of 1920 when prices were substantially higher than they were in 1929. The actual volume of exports was greater in 1929 than any previous year.

Purchases of domestic fuel accounted for more than $100,000,000 of the $266,903,923 total for these products by the United Kingdom and France. Canada was third. The next largest user of motor vehicles, Germany, ranked eighth in importance in our foreign gasoline trade, being followed by Australia, Argentina, Brazil, and The Netherlands, in the order of their rank. Germany purchases petroleum from Russia, Rumania, and other European oil producing countries and also consumes a domestic synthetic product.

Shipments of gasoline, naphtha, etc., accounted for approximately half of the total petroleum exports and went to more than 32 foreign countries. The quantity of these refined motor oils exported totaled more than 60,000,000 bbls., or about 16 per cent more than in 1928, according to the division.

**Lubricating Oils**

Next in importance in petroleum exports in 1929 were lubricating oils, shipments of which amounted to $102,898,697.

(Continued on Page 152)

### DEDUCTING GASOLINE TAX

The Bureau of Internal Revenue at Washington, D. C., has ruled in 18 states regarding the right to deduct gasoline tax payments in making the Federal income tax reports. A deduction covering the tax payment will be permitted in 13 states and in five states the deduction is not permissible.

In the five states the deduction is not permitted because the gasoline tax laws impose the tax upon the distributor rather than the consumer.

In the following states the deduction is permitted: Pennsylvania, Illinois, Washington, Massachusetts, Rhode Island, Wisconsin, Delaware, Kentucky, Michigan, Missouri, New York, North Carolina and Virginia.

In these states there is no deduction: Ohio, Maryland, Connecticut, Georgia, Colorado.

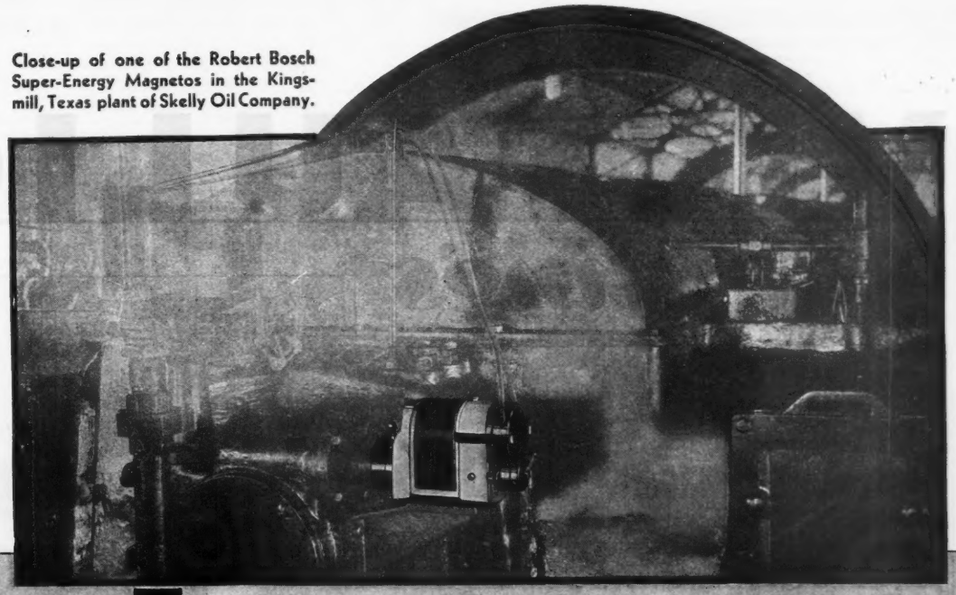
### NAVY DEPARTMENT BIDS

WASHINGTON, D. C., Feb. 8.—The Navy Department will open bids on February 18, 1930, for supplying lubricating oils in Oriental ports. The oil is in quantities from 100 gallons to 45,000 gallons and is for delivery to ports in the Phillipines, China and Japan.

### WHITE STAR EXPANSION

White Star Refining Co., which now ranks as the second largest distributing organization in Michigan, is conducting an important expansion program during 1930. The company is operating in Ontario, Ohio, Indiana and Illinois, and is expected to further diversify its marketing territory before the close of the year.

Close-up of one of the Robert Bosch Super-Energy Magnetos in the Kingsmill, Texas plant of Skelly Oil Company.



# SUPER-ENERGY—24 hours a day for SKELLY OIL COMPANY

ADD the Skelly Oil Company, Kingsmill, Texas, to your list of oil plants that depend on the Robert Bosch Super-Energy Magneto . . . depend upon it 24 hours a day, to keep their compressors on the job.

In every field the dustproof, waterproof Robert Bosch Magneto holds the world's record for dependability. This is the magneto used so widely by the important oil companies in Oklahoma, Texas and California for compressors in air lift and gasoline plants, for pumping engines, etc.

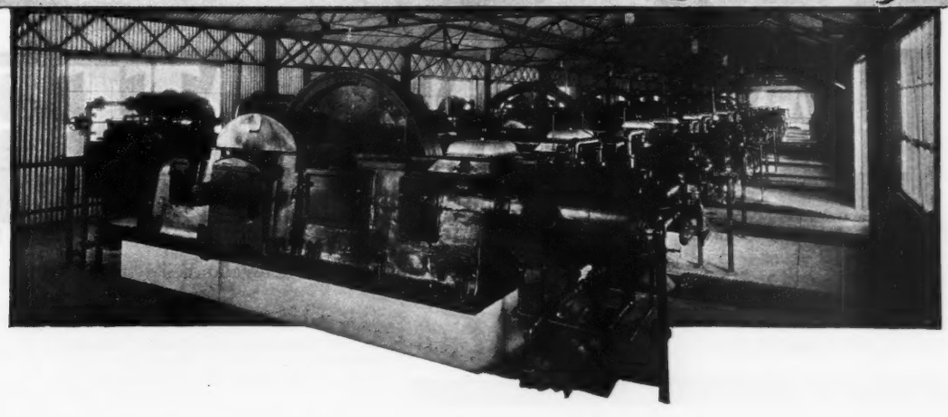
This is the magneto that sustained the Graf Zeppelin on its 'round the world flight. This is the magneto used by every winner of the great automobile races at Indianapolis for the last four years. The Dornier Do-X, largest airplane in the world, depends on 24 Robert Bosch Super-Energy Magnetos. Coast to coast buses, great fleets of heavy trucks, all know that for dependability the Robert Bosch Magneto is in a class by itself.

For every kind or size of engine . . . the smallest single cylinder engine . . . the small high speed stationary engine of 15 B. H. P. . . . for larger engines all the way up to a great gas engine of 1000 B. H. P., there is a suitable type of Super-Energy Magneto, just as there is for trucks, tractors, stationary, airplane and marine engines of all descriptions. Write for a copy of "Ignition Briefly Described," containing ignition information which you will find both interesting and useful.

ROBERT BOSCH MAGNETO CO., INC.
3601E Queens Blvd., Long Island City, N. Y.

All Robert Bosch Super-Energy Magnetos bear the full name "ROBERT BOSCH" and this trademark . . . .

## Robert Bosch Super-Energy Magneto



# VICTAULIC
## *Couplings*

**SIMPLE, SPEEDY INSTALLATION UNDER EXTREME FIELD CONDITIONS MAKES VICTAULIC THE IDEAL COUPLING FOR THE PRODUCTION DEPARTMENT.**

HANLON-WATERS, INC.
Box 1404, Tulsa, Okla.
Please send Victaulic Bulletin No. 2.
Name _____
Address _____
Company _____ Position _____

FLEXIBLE LEAK-PROOF
VICTAULIC
REG. U.S. PAT. OFF.
PIPE COUPLINGS

A large number of major operating companies have standardized on Victaulic Couplings for tank battery hook-ups, manifold connections, flow lines, as well as all lease lines.

Why not investigate the proven economy of specifying Victaulic Couplings "for every joint on every line?"—on reconditioned pipe as well as new?

# HANLON-WATERS
INC.
*General Offices:* TULSA, OKLA. *Box 1404*
HOUSTON — FORT WORTH — DENVER

Ample stocks carried at Tulsa and Cleveland

## SIPHONS FOR REMOVING WATER FROM GAS WELLS

(Continued from Page 88)

small jets through which the gas enters the eductor line, and its operation has demonstrated that jets are desirable.

A siphon consists of five essential parts: The siphon line or eductor tube through which the water and the gas used to lift the water flow to the surface; the well head connections; gas jets, or openings in the siphon line through which gas is admitted; water inlets, or openings in the lower end of the siphon line through which water may enter; and an "anchor" placed below the water inlet, which serves as a trap to prevent sediment from entering the siphon line.

From information at hand or easily obtained it is usually possible to determine whether or not a siphon will operate; hence, before either a continuous or an intermittent siphon is installed a careful study should be made of the history of the well. This information should include the following data:

1—Depth of the well. 2—Daily gas production before the well became inoperative. 3—Water level in the well. 4—Record of shut-in pressure, often erroneously designated "rock pressure." 5—Working pressure which must be maintained on the well so that gas may be discharged into the field line. 6—Time required to drown out the gas and cause the well to cease producing gas.

The first consideration in designing a siphon is to determine what disposition will be made of the gas from the siphon. If the gas which is produced through the siphon line with the water is conserved there is no necessity for attaining the maximum practical operating efficiency at the siphon installation. However, if the gas used in lifting the water to the surface is blown to the air, as little gas as possible, or in other words a low gas-water ratio, should be used to lift the water because gas blown to the air is an economic waste.

Technical Paper 460 contains details regarding the essential parts of a gas well siphon; the installation and operation of siphons; data required for design of siphons, etc. Copies of this paper may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at a price of 10 cents.

## LEGAL

DEPARTMENT OF THE INTERIOR
WASHINGTON

Call for Bids

To purchase Government royalty oil from the SE¼ Sec. 2, and NW¼, Sec. 12, T. 22 S., R. 17 E., M.D.M., Kettleman Hills oil field, California.

Pursuant to the provisions of Section 26 of the act of Congress approved February 25, 1920 (41 Stat., 437), sealed proposals in duplicate will be received in the office of the Secretary of the Interior, Interior Department Building, Washington, D. C., on or before noon of March 1, 1930, from responsible bidders for the purchase, for a period beginning April 1, 1930, and ending June 30, 1931, of royalty oil accruing to the United States from two wells, one on the SE¼, Sec. 2, and one on the NW¼, Sec. 12, T. 22 S., R. 17 E., M.D.M., in the Kettleman Hills oil field, California, operated respectively by the Milham Exploration Company and the Marland Oil Company of California. The approximate quality of the oil to be sold is indicated by the following: Gravity, about 60 degrees A.P.I.; 89 per cent gasoline stock (437° F.); 8 per cent kerosene and fuel oil; 3 per cent distillation loss. The Government's royalty oil amounts to approximately 500 barrels a day and will probably decrease. It is provided under an agreement approved by the Secretary of the Interior on November 22, 1929, that both wells will be shut in and cease producing if and when the pressure in the well in Sec. 2 has been reduced so that it can be killed without hazard to life and property.

Bids must be a flat price per barrel stated in dollars and cents. Delivery of royalty oil, if and when accrued, will be made without cost to the Government on the SE¼, Sec. 2, and/or the NW¼ Sec. 12, for the account of the successful bidder by segregation in royalty tanks or by direct pipe line run as an undivided portion of production as the Government may elect. Payments for the royalty oil are to be made to the Register of the United States Land Office at Sacramento, Calif., on or before the 15th (fifteenth) day of each month following that in which delivery is made, the quantity and quality of the oil to be determined by tests, corrected for impurities, and the volume computed in terms of standard barrels at 60° F.

Each bid must be accompanied by a certified check payable to the order of the Secretary of the Interior in the sum of $1,000 as a guarantee that the bidder will, if successful, promptly execute a satisfactory contract and furnish a bond in the sum of $60,000 conditioned upon full and complete compliance with the terms of the contract.

The Secretary of the Interior may accept the offer of the highest bidder and reserves the right to reject all bids whenever within his judgment the interest of the United States demands.

Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelop to be marked plainly "Bid on Kettleman Hills royalty oil." No bid received after the time herein fixed for submitting bids will be considered.

Additional information can be obtained from the Geological Survey, Department of the Interior, Washington, D. C., or from the field office of the Geological Survey at Taft, Calif.

(Sgd.) RAY LYMAN WILBUR
Secretary of the Interior.

February 3, 1930.

## CAMPAIGN PLANNED IN ST. LAWRENCE VALLEY

(Continued from Page 88)

1½ miles southwest of Point du Jour range to 2,050 feet. Small shows of gas were encountered, but no commercial production; in both these later tests the upper 1,000 feet consisted of red shale, underlain with gray shale, indicating the tests were located in one of a series of broad synclinal basins a few miles west of a great fault known to extend from Lake Champlain to Quebec City; and geologists advise avoidance of these synclines, in locating tests.

The Twin Cities Gas & Oil Co., a Montreal group, has acquired leases on properties adjacent to existing shallow gas wells in the vicinity of Lanoraie, approximately 40 miles due east of Montreal on the Canadian Pacific Railway line between that city and Quebec. In this area still some of the shallow wells put down 20 years or more ago and the production of which is partly utilized by adjacent householders for domestic fuel and lighting. Recent geological research indicates that though this gas comes from the drift, the limestone lying between the river and the Laurentian foothills should be gas-bearing, with a hard capping to retain any possible production. Accordingly, the Twin Cities company will undertake one or more deep tests.

The Provincial Gas & Oil Co., financed by Quebec interests, holds considerable acreage in Lanoraie and Portneuf districts, and is preparing to drill. Drilling operations for both these companies will be handled under contract by the Alexander Diamond Drilling Co. of Montreal; and locations will be made close to the old shallow wells. Several smaller groups of Quebec, Montreal and Toronto capitalists are interested in acreage, and may undertake drilling activity.

Prospecting parties are active and additional acreage is being staked. A recent estimate places the area staked between 300,000 and 400,000 acres. Most of it has already been recorded and paid on at the Department of Mines in Quebec. Additional prospecting parties from Montreal are working over outlying areas as yet unstaked, but included in the sedimentary area of the St. Lawrence Valley. Staking has been steadily extending back from both the north and south banks of the St. Lawrence.

Gas rather than oil is looked for by the operators, though it is believed there is some prospect for oil. A ready market for any gas developed is assured by a densely populated and prosperous farming country, and in easy distance of the large cities of Quebec, Montreal and Three Rivers. Geological work has, it is reported, been in progress since last autumn. The Quebec provincial government is co-operating with operators to secure early development.


THE LAYNE

MILLED GROOVE SCREEN is 205,000 lbs. STRONG

Severe tests by the Pittsburgh Testing Laboratory reveal remarkable tensile strength of oil industry's latest and most practical invention—the *LAYNE MILLED GROOVE SCREEN.*

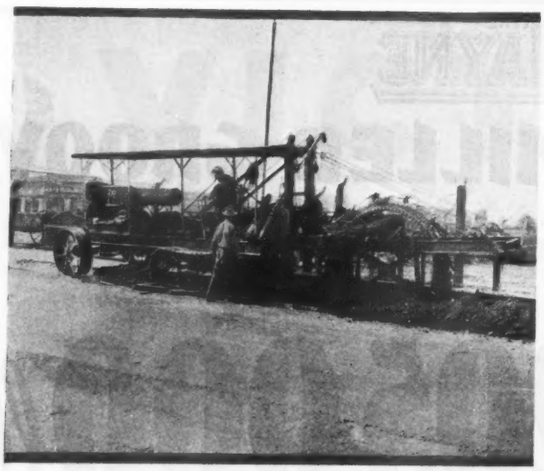
Test was made on a full length of pipe which was gripped in a 600,000-pound capacity Universal Testing machine and pulled to failure. The ends were plugged to prevent their collapsing under the pressure required to grip them. An attempt was made to obtain the yield point as indicated by the drop of the weighing beam, with results as follows:

| Specimen— | Load at Yield Point Pounds | Ultimate Load Pounds | Avg. Wall Thickness Inches | Avg. O.D. Inches |
|---|---|---|---|---|
| Drilled Pipe | 186,800 | 310,750 | .368 | 5.0014 |
| Milled and Drilled Pipe | 205,000 | 307,600 | .382 | 5.005 |

This is your definite guarantee for utmost dependability in the greater production screen—install *Milled Groove* instead of wishing you had.

The Layne & Bowler Co.
Houston THE LAYNE Texas
*Increases Production*

The Layne New York Co. 30 Church St., New York
The Layne & Bowler Corp. Los Angeles, Cal.
Vickers, Limited London, England



**After Operating a *Fleet of Buckeyes* for the Past Six Years**

George W. Hood, ditching contractor of Los Angeles, California, states that "In my opinion, the Buckeye is superior to any other type of machine of its class. Much faster, cheaper to operate and cutting a better ditch, it comes nearer fitting in on all jobs regardless of soil conditions. Superior features are its rigid construction, ease of operation, low upkeep and long life."

His Buckeye No. 4, illustrated above, is digging 9 miles of trench 18″ wide by 36″ deep for a 6″ pipe line for the Western Oil and Refining Company. On this job and others, it gave "the very best service"—averaging 2000 lineal feet in 8 hours.

Hundreds of such reports, from as many pipe line contractors and covering thousands of miles of ditch, prove conclusively that Buckeyes, as one owner claims, are "*the only ditchers that meet all oil and gas field requirements.*" It explains, too, why so many owners use Buckeyes exclusively and employ them in great numbers.

Made in a complete range of sizes, there is a Buckeye for every oil or gas line need. Write for complete specifications and prices.

THE BUCKEYE TRACTION DITCHER CO.
FINDLAY, OHIO
*There's a Buckeye Sales and Service Office near You*

*for over thirty years*
Buckeye

## VALUE OF EXPORTS IN 1929 OVER $500,000,000

(Continued from Page 148)

This item showed an increase of more than $11,000,000 in valuation over the previous year, but the quantity exported was slightly less than in 1928. The United Kingdom, France, Germany and Australia were leading customers for these products which, as in gasoline, found world-wide distribution, it was stated.

Illuminating oil (kerosene) exports for the year, amounting to $83,787,818, decreased by nearly $10,000,000, due largely to a falling-off in shipments to China, Hong Kong, and Kwantung, the most important purchaser of this product. Unsettled conditions in these countries are believed to have brought about the decline.

Crude petroleum shipments in 1929 increased by 42 per cent over 1928, and amounted to $37,799,683. Most of this trade was with Canada, which took about 85 per cent of the exports. Japan and Cuba took a large part of the balance, according to the figures of the division.

Gas and fuel oil exports fell by more than $8,000,000 from the previous year, reflected principally in declines in shipments to France, Germany, United Kingdom, Canada, Panama, Cuba, Argentina, and Chile. The total exports of these products in 1929 amounted to $37,199,685, the decrease being associated with a lower domestic output.

## CODE ENFORCEMENT BRINGS COMPLAINTS

(Continued from Page 148)

While this was true in some instances, we do not believe it is the general thing. Where jobbers did not take the trouble to investigate the gossip and succumbed to the temptation, the discounters added another victim to their list, and so on down the line.

It seems to us that the state committee is right in not having two prices at the service station. One man's money should be as good as another's. Any jobber would have a hard time explaining why a big truck which comes into his driveway, blocking ingress and egress, should buy gasoline two or three cents cheaper than a pleasure car which immediately follows it. This policy is neither right nor legal, and the discrimination between the buyers will surely bring to grief jobbers who persist in such a policy. The Code of Ethics offers a wonderful resistance and a logical reason why one price should be maintained at the station. Any jobber can be a one price jobber if he will.

**Lotteries and Prizes**

Second. Lotteries and prizes, wheels of fortune and other games of chance, according to Rule 6 are "taboo."

During this last month, six different cases have been handled by the state chiarman in the various parts of Nebraska. In every case it was only necessary to bring the condition to the attention of the county attorney, who gave a word of warning to the offending jobber and the policy was stopped. Our state law as well as our Code makes a lottery illegal. Several instances of public withdrawals were advertised in the paper. Editors of papers are somewhat careless in advertising lotteries which makes every editor liable not only with the state but with the United States postal regulations.

Third. Gasoline should not be sold from tank wagons to other vehicles except in emergency cases (Rule 15).

Some complaints of this have come in. Here again we have a state law which the state fire marshal is authorized to enforce. In every city and village, the chief of the fire department is the representative of the state fire office. A complaint should be made to him if any company persists in selling gasoline from the tank wagon to the motor vehicles.

**Opening Days**

Fourth. No oil or thing of value shall be given away as an inducement on opening or special days (Rule 16).

We find that some jobbers have been made victims of high pressure salesmanship in buying certain coupons by the thousand which will be redeemed in silverware, blankets, or pillows. The Lincoln service station which reached the "ne-plus ultra" of the giveaway when it built a small race track back of the filling station and rented three or four Shetland ponies and advertised "pony rides for the children while you get your tank filled," has been closed. This unique giveaway plan was not sufficient as a business getter to the extent that it made the station pay.

Fifth. Respect the contracts the jobber makes (see Rule 4).

Some refinery and lub oil salesman failed to realize the importance and the liability assumed by inducing or assisting a jobber in breaking a certain contract for the sale of products between that party and another. Several instances have been brought to our attention where products have been sold to a jobber when this jobber had already contracted his entire business to another source. The head office of any reputable concern does not in any way condone such a practice. Whenever this violation has been brought to their attention they have immediately ordered the salesman to go back and straighten the matter out. When a jobber makes exclusive contracts they should be lived up to. Several court actions have been instituted and the exclusive contracts confirmed in actions brought during the past month.

## SOUTH DAKOTA HAS DOZEN WELLS DRILLING

In a communication to the United States Daily, Frank D. Kriebs, Secretary of Agriculture, State of South Dakota, says:

"Geologists have contended for years that underlying South Dakota's fertile soil, particularly in the western half and some of the southern portion, there is an abundance of oil. Their arguments, backed by our lignite coal deposits and natural gas wells, have been fully sustained by recent developments.

"South Dakota is now listed as one of the oil producing states. The Barker well No. 1, located 27 miles northeast of Hot Springs, has brought in a commercial flow of oil, at a depth of 1,328 feet. The flow is estimated to be between 15 and 25 bbls. per hour. The drilling is being continued and the flow of oil increases. This means the testing of the various oil domes in our state.

"The first oil discovered in South Dakota was in the Standing Butte well, 35 miles northwest of Pierre. Owing to the tremendous flow of artesian water encountered in the third artesian basis, which was not known until it was struck, the well had to be abandoned. The water now flowing forms a creek that is 25 miles long, emptying into the Cheyenne River and furnishes water, winter and summer, for hundreds of head of stock. The geologists claim that with the information gained in the drilling of this well oil can and will be found in this dome.

"With a dozen drilling rigs in South Dakota, the Barker well producing, we predict that the west river country will see in the next few years great oil developments."

## QUEENSLAND PERMITS

Queensland, Australia, has been opened for oil exploration work by foreign companies under the provisions of a law enacted by the Queensland legislature permitting foreign companies to obtain permits to prospect for oil and leases to extract when oil is found. Foreign companies may procure registration with the Registrar of Joint Stock Companies, with licenses to be obtained from the governor-in-council.

## MEXICO'S OIL RESERVE

The Mexican government has published a decree which sets aside as part of the national petroleum reserve, all of the free national lands in the States of Campeche and Yucatan.

# Naylor Pipe "Unit Construction"
## Saved This Oil Company $1,123.28 Per Mile

RECENTLY a prominent Oil Company laid a 12" Naylor Pipe line in uniform 40 foot lengths, Victaulic coupled.

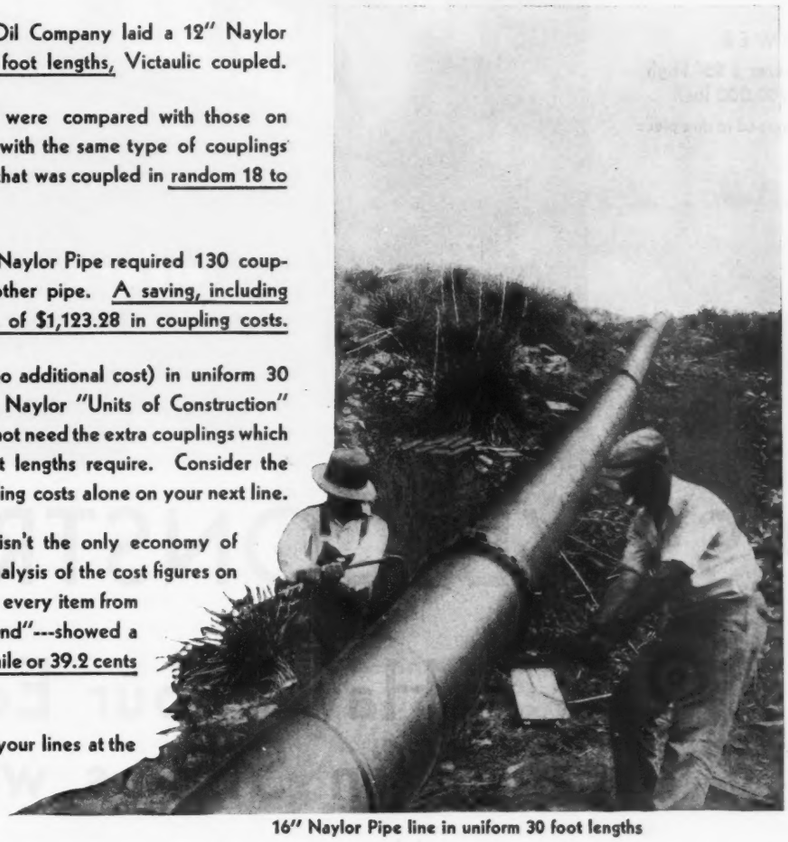
The cost figures on this line were compared with those on another line---also a 12" line with the same type of couplings but a different pipe and one that was coupled in random 18 to 22 foot lengths.

The comparison showed that Naylor Pipe required 130 couplings less per mile than the other pipe. A saving, including the freight on the couplings, of $1,123.28 in coupling costs.

Naylor Pipe is furnished (at no additional cost) in uniform 30 and 40 foot lengths. These Naylor "Units of Construction" mean fewer joints. You do not need the extra couplings which pipe in random 18 to 22 foot lengths require. Consider the saving you can make in coupling costs alone on your next line.

But reduced coupling costs isn't the only economy of Naylor Pipe. A complete analysis of the cost figures on the two 12" lines---reckoning every item from freight to "as laid in the ground"---showed a net saving of $2,064.74 per mile or 39.2 cents per foot.

Choose Naylor Pipe and lay your lines at the lowest cost per foot in the ground.



16" Naylor Pipe line in uniform 30 foot lengths

NAYLOR PIPE COMPANY, Main Office & Plant, 1230 E. 92nd St., CHICAGO

SALES OFFICES

25 Church St., New York
Witherspoon Bldg., Philadelphia
1209 First National Bank Bldg., Pittsburgh
507 Philtower Bldg., Tulsa
601 Post-Dispatch Bldg., Houston

DUCOMMUN CORPORATION
LOS ANGELES SAN FRANCISCO
Exclusive Distributors:
California, Arizona, Nevada and Utah

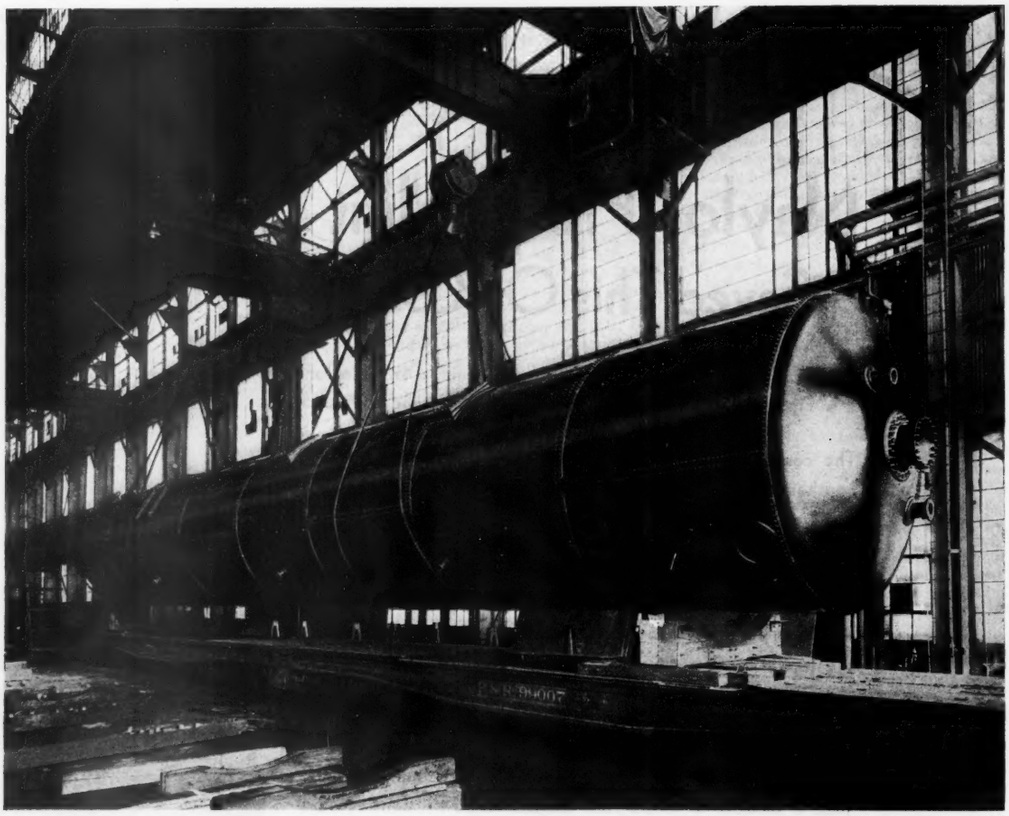
MONTREAL, CANADA
Mechanical Equipment Co.,
New Birks Building

TONCAN COPPER
# Naylor Pipe
Maximum Structural Strength Mo-lyb-den-um With Minimum Weight
IRON

Standardized Naylor Pipe is made in sizes 6" to 12" I. D. and 14" to 20" O. D. in any uniform length desired up to 40' 0". Ends made to wrought pipe standards for all types of coupling.

Where corrosion resistance is not a factor, Naylor Pipe can be furnished in steel.

Toncan Copper Molybdenum Iron is a development of Central Alloy Steel Corporation, the world's largest and most highly specialized alloy steel producers. It possesses a superior corrosion resistance, making it the favored pipe material



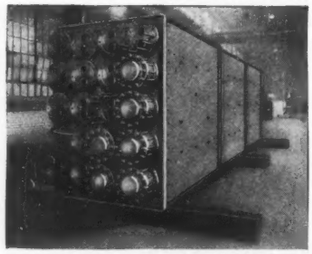
TOWER
13' 4" Diameter x 95' High
Weight 250,000 lbs.
Handled and shipped in one piece

# MASSIVE CONSTRUCTION

## Have Your Equipment Built in Shops with Capacity

Many pieces of equipment such as the one illustrated above are built in our shops at the same time.

TOWERS ▪ STILLS
CONDENSERS
HEAT EXCHANGERS ▪ TANKS, etc.
STILL BOTTOMS ▪ ANGLE WORK
FABRICATED PLATE WORK



HIGH PRESSURE HEAT EXCHANGER

Rail or water shipments

Estimates on request

## SUN SHIPBUILDING & DRY DOCK CO.
## CHESTER, PA.

# GULF PORT SHIPMENTS SHOW SLIGHT INCREASE IN DECEMBER

HOUSTON, Tex., Feb. 10.—A total of 18,516,691.62 bbls. of crude and refined products was shipped from Gulf Coast ports during December, according to figures just compiled here. This represents a slight increase of 565,808.66 bbls. over water shipments of the month of November. There was a substantial movement of refined products for exports as well as crude for the Atlantic Seaboard but the lifting of refined products for the East Coast and crude for export fell off. Shipments by companies and ports were:

| | REFINED | | | |
|---|---|---|---|---|
| | Coastwise | | Export | |
| | November | December | November | December |
| Standard Oil Co. (La.): | | | | |
| Baton Rouge | 803,477.00 | 855,764.00 | 613,117.00 | 727,987.00 |
| The Texas Company: | | | | |
| Port Arthur | 1,241,767.00 | 1,086,324.00 | 385,100.00 | 535,398.00 |
| Gulf Refining Co.: | | | | |
| Port Arthur | 2,666,956.02 | 2,192,518.53 | 148,372.66 | 65,713.71 |
| Magnolia Petroleum Co.: | | | | |
| Beaumont | 877,774.95 | 1,063,374.19 | ..... | ..... |
| Humble Oil & Refining Co.: | | | | |
| Baytown | 1,647,158.23 | 1,740,052.33 | 1,458,333.13 | 1,818,656.00 |
| Atlantic Oil Prod. Co.: | | | | |
| Atreco | 350,182.09 | 203,255.43 | ..... | ..... |
| Pure Oil Co.: | | | | |
| Smiths Bluff | 444,121.80 | 552,084.80 | ..... | ..... |
| Deepwater Oil Refineries: | | | | |
| Houston | 130,000.00 | ..... | ..... | ..... |
| Total refined | 8,161,437.09 | 7,694,373.28 | 2,602,922.79 | 3,147,754.77 |
| **CRUDE** | | | | |
| Standard Oil Co. (La.): | | | | |
| Baton Rouge | 623,218.00 | 464,876.00 | 53,913.00 | 54,070.00 |
| The Texas Company: | | | | |
| Port Arthur | ..... | ..... | ..... | 30,293.00 |
| Gulf Refining Co.: | | | | |
| Port Arthur | 364,120.09 | 281,726.12 | ..... | ..... |
| Magnolia Petroleum Co.: | | | | |
| Beaumont | 750,560.52 | 806,246.82 | ..... | ..... |
| Humble Oil & Refining Co.: | | | | |
| Texas City | 628,380.00 | 800,549.00 | ..... | 100,663.00 |
| Ingleside | 196,122.00 | 112,987.00 | ..... | ..... |
| Baytown | 439,309.00 | 533,202.00 | 4,381.00 | ..... |
| Neches | 83,850.00 | 15,607.00 | ..... | ..... |
| Harbor Island | 1,602,493.00 | 2,100,894.00 | 306,615.00 | 73,994.00 |
| Atlantic Oil Prod. Co.: | | | | |
| Atreco | 1,099,306.48 | 887,571.76 | ..... | ..... |
| Beaumont | 204,019.71 | 143,899.56 | ..... | ..... |
| Pure Oil Co.: | | | | |
| Smiths Bluff | 336,437.28 | 428,952.31 | ..... | ..... |
| Sun Oil Co.: | | | | |
| Sabine Pass | 493,798.00 | 839,032.00 | ..... | ..... |
| Total crude | 6,821,614.08 | 7,415,543.57 | 364,909.00 | 259,020.00 |
| Total shipments | 14,983,051.17 | 15,109,916.85 | 2,967,831.79 | 3,406,774.77 |

## WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 52)

**HARMON COUNTY**

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Fishing 700 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w.. Shut down 625 ft.

**HARPER COUNTY**

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Drlg. 6,901 ft.

**HASKELL COUNTY**

Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e .. Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e .. Shut down 2,100 ft.

**HUGHES COUNTY**

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Rig.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 ..... 1,000,000 ft. gas 2,284-90 ft.; total depth 2,815 ft.; shut down.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Rig on ground.

**KINGFISHER COUNTY**

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w .... Fishing 6,285 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

**KIOWA COUNTY**

Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-18w ..... Shut down 490 ft.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w. Shut down 1,500 ft.

**LEFLORE COUNTY**

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24... Total depth 5,440 ft.; 15,000,000 ft. gas; drlg. 5,488 ft.

**LATTIMER COUNTY**

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Drlg. 1,550 ft.

**LOGAN COUNTY**

Currier's No. 1 Young, C SW NE SW Sec. 34-17-4w .... Rig.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w.. Shut down 3,970 ft.

**McINTOSH COUNTY**

T. C. Young's No. 1 Derrison, Sec. 3-12-15 ..... Shut down 710 ft.
Jennings Bros.' No. 1 Crabtree, NW SW NE Sec. 31-10-14 ..... Shut down 4,100 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

**MUSKOGEE COUNTY**

Mid-Western Oil Co.'s No. 1 Unknown, C NW SW Sec. 31-12-19 ..... Drlg. 120 ft.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .. Shut down 1,011 ft.

**NOBLE COUNTY**

Gypsy Oil Co.'s No. 1 Bergstrom, SE NE Sec. 28-22-1w .. Rig.
Peerless et al's No. 1 Wentz, NW SW Sec. 22-22-1 ..... Drlg. 3,279-3,310 ft.; swabbed 95 bbls. 1 hour.

**OKFUSKEE COUNTY**

Irwin et al's No. 1 Davis, SE NW Sec. 16-13-9 ..... Rig.
Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Shut down 2,795 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10 .. Shut down 3,661 ft.

**OKLAHOMA COUNTY**

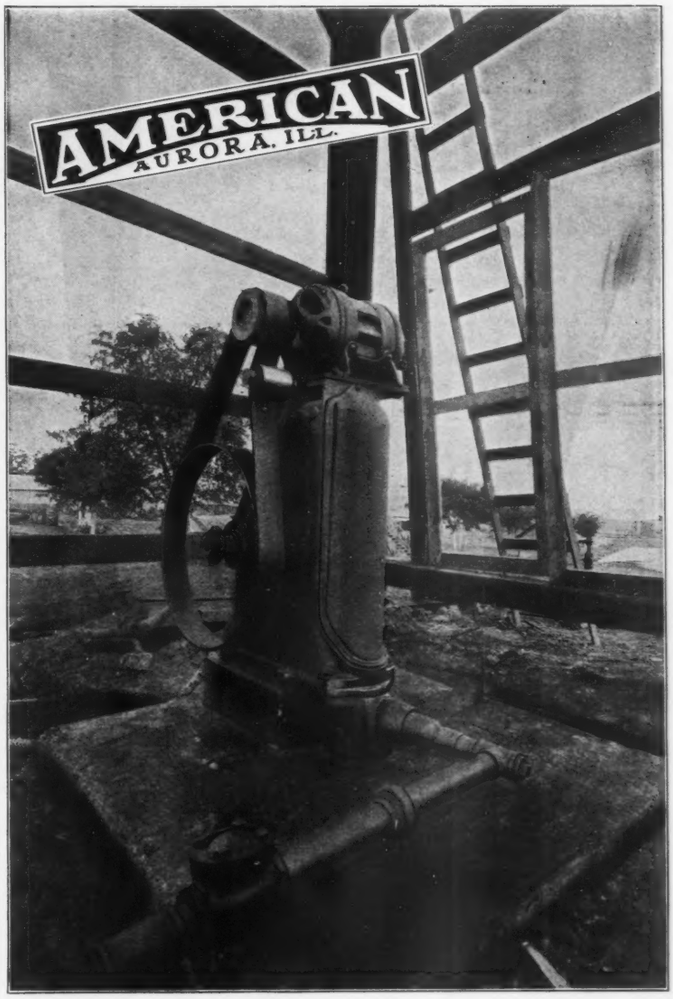
J. F. Cunniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Drlg 1,280 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... Drlg. 4,365 ft.
Ryan & Martin's No. 1 Lawton, NE NW Sec. 3-11-2w.. Drlg. 4,245 ft.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... T. D. 6,966 ft.; water; recemented, shut down.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Drlg 3,507 ft.

**OSAGE COUNTY**

Kay Co. Gas' No. 1, C N half NE Sec. 28-24-4 ..... Rig.
Continental Oil Co.'s No. 1, NW SE SE Sec. 24-24-5 .... Drlg. 800 ft.

**PAWNEE COUNTY**

Shaffer O. & R. Co.'s No. 1 Jones, SW NE Sec. 22-20-5.. Location.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**Illustrated above is an "American" totally enclosed power head for water service in connection with the oil wells of the Amerada Petroleum Corporation in the Seminole field. They are built for hard service, pipe line stations, tank farms, gasoline plants and refineries. They are made in various sizes to meet any usual well conditions.**

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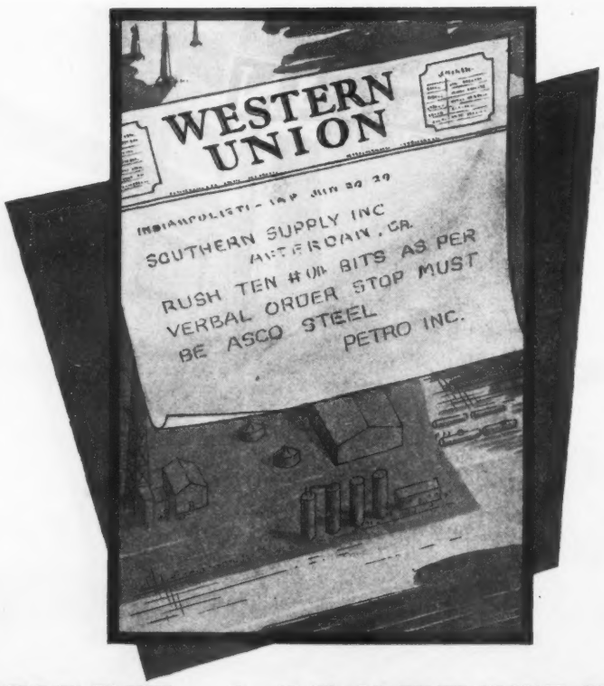


# THE ANSWER
## *to the drillers' demands!*

It is said an "Ideal" is never obtained—that it is something mythical—too perfect to be within reach of mankind.

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When the going gets tough, try a bit made from ASCO Well Bit Tool Steel—watch the results—note the difference.

THE ANDREWS ASCO STEEL CO.
NEWPORT KENTUCKY

Cochran and others' No. 1 Green, NE cor. SW Sec. 15-23-5 ..... Rig.

**PITTSBURG COUNTY**

Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ..... Shut down 3,975 ft.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 ..... Shut down 3,502 ft.

**POTTAWATOMIE COUNTY**

Keister & Manning's No. 1 Rowlett, SW SE NE Sec. 30-8-4 ..... Rigging up standard tools 4,254 ft.
Payne Drlg. Co.'s No. 1 Bullock, SE NE Sec. 22-6-3 .... Rigging up standard tools 3,932 ft.

**ROGER MILLS COUNTY**

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w .... Rig.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .... Shut down 2,769 ft.

**SEMINOLE COUNTY**

Independent Oil & Gas Co.'s No. 1 Johnson, C NE NE Sec. 33-9-8 ..... Rig.
Prairie Oil & Gas Co.'s No. 1 Anders, NW cor. Sec. 23-6-6 ..... Rig.
Superior Oil Co.'s No. 1 Morgan, SE cor. Sec. 19-6-6 .... Spudded; shut down.
Magnolia's No. 1 Webster, NE SE NW Sec. 31-6-8 ..... Drlg. 2,690 ft.
Prairie's No. 1 Mingo, SE NE Sec. 25-6-5 ..... Wilcox 4,307-20 ft.; water; abandoned.
Prairie's O. & G. Co.'s No. 1 Harjo, NE SW NE Sec. 25-6-7 ..... Wilcox 4,272-76 ft.; water; abandoned.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 25-5-5 ..... Location.

**WOODS COUNTY**

Peerless O. & G. Co.'s No. 1 Crowell, C NW NE Sec. 23-28-16w ..... Drlg. 3,350 ft.
S. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ..... Rigged up and shut down.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Fishing 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... Drlg. 6,491 ft.

**WOODWARD COUNTY**

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-23-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas and others' No. 1 Wilber, NE cor. NW Sec. 23-23-17w ..... Drlg. 6,040 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Drlg. 5,275 ft.
Burgoyne Bros.' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

**SOUTHERN OKLAHOMA**

**ATOKA COUNTY**

J. W. Ernest and Bryant's No. 1 Unknown, NW cor. Sec. 6-1-14 ..... Shut down 800 ft.
Bryant-Croxton's No. 1 Mason, NW NE NW Sec. 4-1s-14. Drlg. 1,560 ft.
Bookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 ..... Shut down 100 ft.

**BRYAN COUNTY**

Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ..... Shut down 2,025 ft.

**CARTER COUNTY**

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 1,980 ft.

**CHOCTAW COUNTY**

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19e ..... Shut down 1,346 ft.

**COTTON COUNTY**

American Ref. Co.'s No. 1 Miller, SE SW Sec. 9-5s-12w.. Shut down 2,085 ft.
T. Medlin's No. 1 Johns, SW SE Sec. 8-2s-9w ..... Shut down 1,260 ft.

**MARSHALL COUNTY**

Golden Rule Oil Co.'s No. 1 Reeves-Gray, C NW SE NE Sec. 19-6s-6 ..... Drlg. 120 ft.

**McCURTAIN COUNTY**

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25.. Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 1,800 ft.

**STEPHENS COUNTY**

Wirt Franklin Pet. Corp.'s No. 1 McPhail, NW SE Sec. 1-2s-7w ..... Rig.
Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w .... Shut down 2,476-87 ft.

**TILLMAN COUNTY**

Allen Bros.' No. 1 Howell, SW NE Sec. 13-1-17w ..... Shut down 715 ft.
Nance et al's No. 1 Massie, NE NW Sec. 36-1s-6w ..... Location.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,535 ft.

## WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 55)

**DOUGLAS COUNTY**

Steinbuckel's No. 1 Unknown, SW NE NW Sec. 34-14-21.. Rig.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17 .. Shut down 550 ft.

**EDWARDS COUNTY**

Skelly's No. 1 Johnson, NE SW Sec. 21-26-17w ..... Drlg. 3,780 ft.
Barnsdall Oil's No. 1 McCarty, NW NE Sec. 31-25-17w.. Drlg. 3,335 ft.
Dixie & Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w ..... Drlg. 3,700 ft.

**ELK COUNTY**

H. F. Fleming's No. 1 Shered, NW cor. Sec. 16-29-9 .... Shut down 50 ft.
Empire and Arkansas Fuel's No. 1 Record, C NW NE SE Sec. 32-30-10 ..... Drlg. 2,110 ft.

**ELLIS COUNTY**

Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w.. Shut down 1,290 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w ..... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Fishing 2,555 ft.

**ELLSWORTH COUNTY**

Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w .. Drlg. 2,720 ft.

**FORD COUNTY**

McNabb et al's No. 1 Fowler, C SE Sec. 26-27-22w .... Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .... Shut down 520 ft.

**GRAHAM COUNTY**

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,340 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Rig.

**GREENWOOD COUNTY**

Ward & McGinnis' No. 1 Henley, SW NE Sec. 23-25-9 .. Shut down 1,800 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12 .. Shut down 750 ft.

**HARPER COUNTY**

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Drlg. 1,760 ft.

**HARVEY COUNTY**

Superior's No. 1 Regier, SE NW Sec. 11-22-3w ..... Underreaming 8-in. casing 3,164 ft.
Liggett et al's No. 1 Regier, C SE NW SE Sec. 2-23-3w.. Fishing 3,355 ft.
E. W. Marland, Inc.'s No. 1 Neiman, C NE SE NE Sec. 8-24-2 ..... Shut down 3,175 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w ..... Shut down 3,360 ft.

**HODGEMAN COUNTY**

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w.. Drlg. 4,755 ft.

**JEFFERSON COUNTY**

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

**KINGMAN COUNTY**

D. P. Fleeger's No. 1 Ashcraft, SE SW NE Sec. 16-28-7w ..... Wilcox 4,343-50 ft.; water; total depth 4,500 ft.; shut down.
White Eagle's No. 1 Lorenz, C NE SW SE Sec. 25-27-5w. Shut down 4,128 ft.

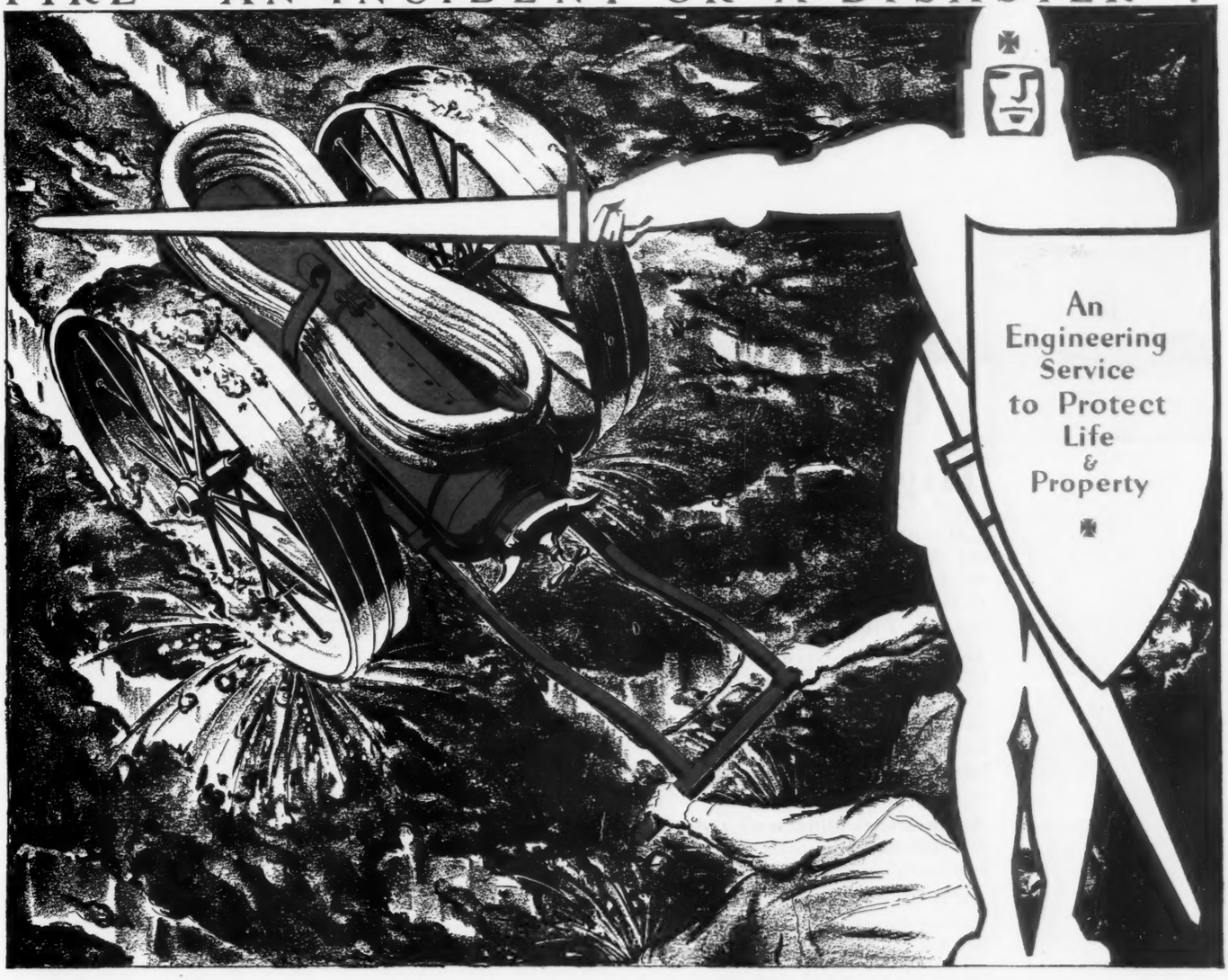
**LANE COUNTY**

Robinson's No. 1 Dickerson, Sec. 11-18-27w ..... 8-in. csg. 2,625 ft.

**LYON COUNTY**

Sheedy et al's No. 1 Evers, C NE SE NE Sec. 4-21-10 .. Rig.

FIRE — AN INCIDENT OR A DISASTER ?

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*AN ENGINEERING SERVICE*

## AGAINST FIRE

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**CONCRETE in place of the old wheel gripping mud roads. Steel derricks in place of the history-making wooden derricks . . . Times change.**

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**Tank Steel**

***Circles, semi-circles and plates in corrosion-resisting copper bearing steel if desired. Three times the life of ordinary steel.***

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Galvanized, Blue Annealed and Black Sheets - Plates and Tin Plate

SINCE 1878 GRANITE CITY SHEETS

**Available in Regular or Copper Bearing Steel**


F. A. Balliere's No. 1 McKee, SW NE Sec. 33-21-11 .....Shut down 1,920 ft.
Sheedy et al's No. 1 Reese, SW SE Sec. 16-20-10 .....Shut down 1,200 ft.

**MARION COUNTY**

Empire O. & R. Co.'s No. 1 Black, C NE NW SW Sec. 27-19-2 .....Drlg. 2,070 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 ....Rig.

**McPHERSON COUNTY**

Galt Brown et al's No. 1 Zeitlow, C NE SE SE Sec. 7-17-1w .....Drlg. 700 ft.
Dixie Oil Co.'s No. 1 Johnson, SW cor. Sec. 20-17-3w ....Drlg. 2,490 ft.
McCulloch Oil Co.'s No. 1 Cornelius, SW cor. Sec. 7-21-4..Underreaming 6-in. csg. 3,500 ft.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-20-1w .....Chat 2,935-49 ft.; drlg. 3,132 ft.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w .....Shut down 1,472 ft.
Transcontinental Oil Co.'s No. 1 Algers, NE SW Sec. 1-19-5w .....Underreaming 6-in. csg. 4,012 ft.; shut down.

**MORTON COUNTY**

Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-42..Spudded; shut down.

**MORRIS COUNTY**

Urschell et al's No. 1 Scott, NE SW Sec. 6-16-6 .....Shut down 1,600 ft.

**NORTON COUNTY**

Richards et al's No. 1 Colby, C SW Sec. 17-4-21w .....Rig.

**OSBORNE COUNTY**

Phillips Pet. Co.'s No. 1 Grieve, NW SE NE Sec. 6-7-12w..Drlg. 4,320 ft.

**PAWNEE COUNTY**

Prairie O. & G. Co.'s No. 1 Black, SW NE NE Sec. 11-20-18w .....Water 3,660-75 ft.; underreaming 6-in. csg.

**PRATT COUNTY**

O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w .....Drlg. 3,595 ft.
O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w..Wilcox 4,754 ft.; water; abandoned.
Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w .....Underreaming 8-in. csg. 2,785 ft.

**RENO COUNTY**

M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w .....Location.
Wilcox O. & G. Co.'s No. 1 McPheeters, SW NW Sec. 22-26-8w .....Drlg. 3,560 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w .....Water 2,846-60 ft.; underreaming 8-in. csg.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w ....Drlg. 4,144 ft.

**RICE COUNTY**

Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w ....Rig.
Miller & Detrick's No. 1 Shumway, C SW Sec. 2-20-9w..Shut down 3,636 ft.; water.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w ....Drlg. 2,250 ft.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w .....Drlg. 3,050 ft.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w .....Drlg. 2,880 ft.
McCullough et al's No. 1 Williams, C NE Sec. 35-20-8w..Rig.

**RILEY COUNTY**

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 .....Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e..Shut down 2,245 ft.

**ROOKS COUNTY**

A. H. Kruger's No. 1 Steis, NW SE SW, Sec. 12-9-16w..Shut down 570 ft.

**RUSH COUNTY**

Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w .....Drlg. 3,535 ft.
Milmac's No. 1 Mohr, C NW Sec. 11-18-16w .....Drlg. 1,050 ft.

**SALINE COUNTY**

Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w ...Shut down 3,690 ft.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w ..Abandoned 3,812 ft.; water 3,680-85 ft.
Twin Mounds' No. 1 Weis, NW NE NW Sec. 20-13-4w ..Abandoned 700 ft.

**SEDGWICK COUNTY**

Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w .....Shut down 50 ft.
Marland and Amerada's No. 1 Sensorth, NW cor. Sec. 25-28-4w .....Shut down 4,290 ft.
McCullough Oil Co.'s No. 1 Buckles, NW cor. SE Sec. 3-28-1w .....Fishing 1,115 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e..Abandoned 1,685 ft.

**SHAWNEE COUNTY**

Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15 .....Shut down 985 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .....Shut down 750 ft.

**SHERIDAN COUNTY**

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w .....Spudded; shut down.

**STAFFORD COUNTY**

Gibson's No. 1 Mueller, C SW Sec. 11-23-14w .....Drlg. 3,385 ft.

**STEVENS COUNTY**

McNabb and others' No. 1 Ramey, C SW Sec. 1-33-35w..Rig.
Argus Gas Co.'s No. 1 Hobbe, C SE Sec. 17-32-37w .....Drlg. 2,400 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 15-34-38w .....Shut down 1,600 ft.

**SMITH COUNTY**

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w ..Casing trouble 4,081 ft.

**SUMNER COUNTY**

Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w .....Shut down 50 ft.
Kingwood Oil Co.'s No. 1 Stayton, C NE Sec. 18-31-2w ..Chat 3,845-70 ft.; show oil; shut down 3,920 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w .....Chat 3,651-59 ft.; averaged 87 bbls. daily last week.
Lario O. & G. Co.'s No. 1 Osborne, NE SE Sec. 21-30-1w .....Chat 3,590-3,605 ft.; water; shut down 3,680 ft.
E. K. Carey and Laredo Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e .....Shut down 3,740 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

**TREGO COUNTY**

Dixie and Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w .....Drlg. 1,600 ft.
Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE Sec. 29-15-21w .....Shut down 4,018 ft.
Phillips Pet. Co.'s No. 1 Spitz, SE cor. Sec. 24-12-25w ...Estimated 15 bbls. 4,160-65 ft.; drlg. 4,435 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w ....Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w ..Shut down 3,415 ft.

**WASHINGTON COUNTY**

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3..Shut down 3,100 ft.

**WOODSON COUNTY**

Oko Oil Co.'s No. 1 Hougland, SW NE NE Sec. 2-24-14 ..Rig.

## WILDCAT OPERATIONS IN NEBRASKA

**FRANKLIN COUNTY**

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

**CHASE COUNTY**

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w .....U.R. 5-in. csg.; T.D. 4,265 ft.

**FURNAS COUNTY**

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w .....Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w ..Shut down 3,250 ft.

**RICHARDSON COUNTY**

Norton et al's No. 1 Hauser, NE cor. Sec. 26-1-14 .....Location.

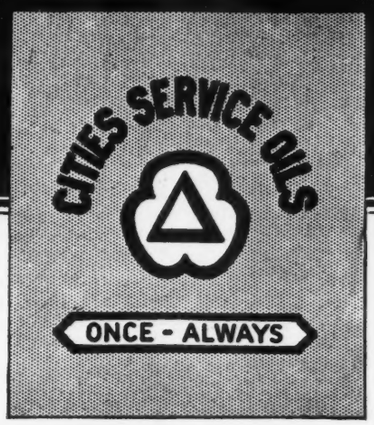
**ROCK COUNTY**

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w .....Drlg. 900 ft.

**WEBSTER COUNTY**

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w .....Shut down 555 ft.

# Over 200 Petroleum Products—each a leader in its field—each manufactured to the highest standards—to meet the needs of *every* industry in a superior way.

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# Empire Oil & Refining Company

*Subsidiary Cities Service Co.*

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NEW YORK PHILADELPHIA CLEVELAND CHICAGO ST. PAUL
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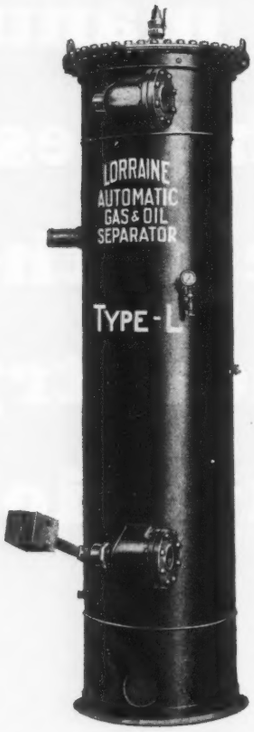
# LORRAINE

*Type "L"*

## Automatic

## GAS & OIL SEPARATOR




A standard Lorraine Separator of small size and capacity, designed especially for low capacity wells. This trap embraces the same design and principle of operation which have made Lorraine Separators famous throughout the oil world for many years.

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# CAPTAIN LUCEY URGES CO-OPERATION ON ALL PHASES OF THE INDUSTRY

By J. F. Lucey*

I have been asked to address you on the subject of the recent Business Conference called by the President of the United States, at which conference I had the honor of representing the oil industry; and also to discuss for you the question of unitization.

In presenting the report of the oil industry I was authorized to state that we had reached a more stable condition than had existed for a number of years; we were in better condition than we had been one year, or three years, ago, because of the fact that we had brought about a daily balance of production, with consumption needs through voluntary agreement and co-operation; there was danger in the present situation because of the overproduction of gasoline. I assured the conference, as well as the administration leaders, that the oil industry, having faith in the administration and the conference leaders, would co-operate in carrying out any plan outlined by the conference.

I was unable to present figures showing the total expenditures in connection with our drilling, producing, transportation and refining. And I regretted this because of the fact that other industrial representatives had data on expenditures from every branch of their business and could present accurate facts and figures.

The oil industry should have some means of ascertaining total expenditures in connection with our industry.

I am now wondering, and I submit this statement without intention of criticizing anyone, whether we are keeping faith with the administration and the leaders of the President's Business Conference; if we are co-operating and have brought about a daily balance of production; is there any responsibility upon the distributing companies, the "majors" as they are referred to, the purchasers, refiners and distributors to maintain the price level, or are we expected only to co-operate in so far as production is concerned.

It seems to me that there should be as much need of co-operation in discussing the prices to be paid for the commodity as the need of curtailment of production.

Why is it not just as possible for the industry when mobilized to prevent depression as it has been for the Federal Reserve Bank to prevent financial panics?

### Co-operation, Not Unitization

This brief survey of the President's Business Conference has given me an opportunity of talking about co-operation, and that is the word I propose to use throughout this article.

### Tribute to H. L. Doherty

For years Henry L. Doherty has been advocating the unit plan, and credit is due him for keeping this subject constantly before the oil industry, the people and the Government. As far as I know, Mr. Doherty has never submitted any concrete plan, but had the vision—he was too far ahead of us. I place Mr. Doherty at the head of constructive thought in connection with this proposed plan of development. The analysis and research work done by the Federal Oil Conservation Board, American Petroleum Institute, Mid-Continent Oil and Gas Association and the American Bar Association is of constructive value. Mr. Marland, in connection with gas conservation, has rendered conspicuous service.

Gas conservation is now an accepted fact, although we are far from having perfected our program of gas conservation, but much has been accomplished, if we will continue our discussion of the unit development, do more practical research along the lines suggested by the A.I.M.E. in a few years unitization, or co-operation, will be an accomplished fact.

The unit plan is not especially new. It has been used advantageously in Pennsylvania, in West Virginia, and in more recent years in Oklahoma in connection with repressuring.

### Unit Plan

If it is a good thing to enter into a co-operative agreement for repressuring, why is it not equally as advantageous for development at the very beginning?

Advantages claimed for the unit plan and co-operative methods are:

Lower cost of production through savings in pipe line, investment, storage tanks and water development.

Greater ultimate yield.

Conservation of gas.

Produce oil as needed.

Proper spacing of wells.

Less evaporation because of fewer storage tanks.

Royalty owners will receive a greater return on their investment, although the immediate return would not be as great as in the competitive plan.

Standardize on machinery and equipment. Rigs can be constructed and skidded without tearing down and rigging up.

I have endeavored to ascertain the viewpoint of all elements—whether he be the "wildcatter," the so-called "independent," or the small producing company, and some of the criticisms are as follows:

Unitization will take away the opportunities of the "wildcatter," who is responsible for the development of the industry.

Will destroy the individual and take away his initiative.

Will destroy the speculative royalty market.

The independent will not have proper representation in the unit; that major companies are in a position, because of their ample working capital, to purchase large acreage surrounding structures and endeavor to obtain representation by the increased acreage so purchased.

That the individual will not be able to intensively drill up his small holdings.

That no recognition will be given to the producer who drills ahead of production and who risks his capital in extending the field.

### Oklahoma's Code

Oklahoma has endeavored to meet these complaints and is recommending a Code of Practice in three forms of contract covering

(a) Co-operative agreements.
(b) Part unitization.
(c) Complete unitization.

Independents also claim that the overhead and operating costs of the major companies are too high. The agreements drawn up by the Mid-Continent Oil and Gas Association, in my opinion, take care of this contention.

No sympathy with the owner of small tract of land in midst of pool, who wants to drill intensively, but proper consideration should be given men who drill ahead of production.

I am reminded of our problems in connection with standardization. As one of the pioneers of that work I did exactly what I am doing now—tried to obtain all the information possible and read all the literature available on standardization. In talking with the president of the Automotive Engineers during the preliminary stages of standardization, he made this statement that "Standardization was a human problem, once the people understood it standardization would take care of itself; that it was up to us to sell the idea."

That is our principal task at this time—we must experiment and profit by the experiments. We must carry on more practical research work. There is no such word as unitization; and, therefore, I cannot discuss it intelligently, not knowing the meaning of the word, but I do know something about co-operation.

Is it not a fact that what we are trying to bring about is a co-operative effort to prevent overproduction of oil, stabilize our industry, obtain a reasonable price for our crude so that the individual as well as the corporation can survive? I know of no better way of opening this

*Before Dallas Petroleum Geologists.

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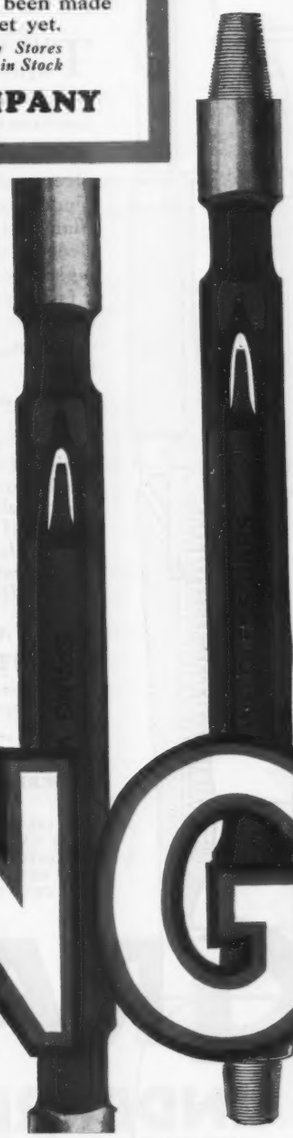

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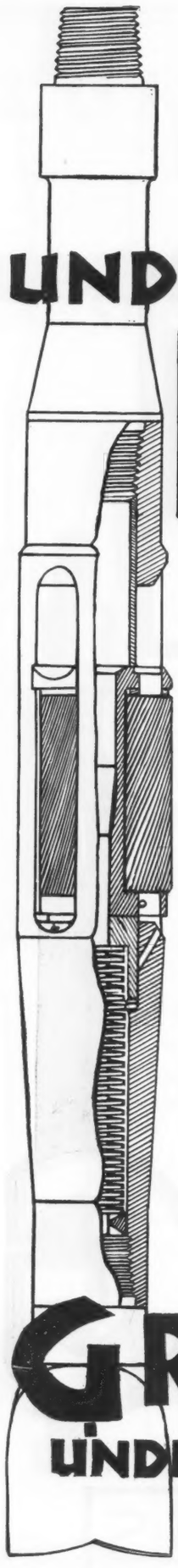

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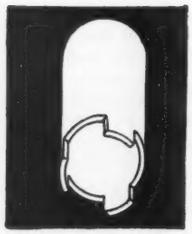

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discussion on co-operation; and in this instance I propose to have "co-operation" cover the words of "unitization," the "unit plan" and "proration."

I can find no better example of what I am trying to convey to you than the manner in which it is presented by Sir Henri W. A. Deterding, managing director of the Royal Dutch-Shell companies, in his paper delivered before the American Petroleum Institute on December 3, 1929, at Chicago.

Sir Henri states as follows:

"We are living in the age of co-operation, and not only as the man of the street thinks of it; that is, in terms of co-operative stores, but in the sense of a very much higher set co-operative aim based on the fact that all industries are becoming visibly (as they always have been logically but too silently) interdependent.

"In this way the oil producer is very quickly becoming the 'producing department,' the oil refiner the 'refining department,' the pipe lines, shipping, receiving installations and even the ocean-going fleets themselves representing the 'forwarding department.' These departments, which may be termed the 'spending department,' will be fed by the 'collecting department,' or the department supplying the public."

Now, if this is a correct presentation of the conditions which Sir Henri advocates, and I am sure it is, is it not reasonable to suggest that when the price of oil is going to be cut that the purchaser should be co-operated with? Or, as I stated before, is co-operation only to apply to the producer when he is going to benefit the complete unit? By that I mean the company that produces, refines and distributes. If we are going to co-operate in one department, why not all along the line? Is it not just as easy to supply reason for a price cut as it is to explain the need of balancing production?

Ascertain what co-operation, co-operative development and unitization have done to date.

### Proration Problems

It is admitted that proration in West Texas has maintained a higher price level. There are many different lines of thought about proration, co-operation and unitization. There are some who believe that legal steps will be necessary and that eventually we will have to resort to legislation to properly regulate the development of our oil fields. I do not agree with this reasoning.

I think we should make haste slowly. I do not find that the individual operator is opposed to proration but to methods. He is willing to conserve oil and gas in his own interests as well as that of the Nation.

It is my opinion that the industry itself must put its own house in order.

Geologists and petroleum engineers have always considered the pool as a unit of production, and why not carry it on to its logical conclusion? The unit plan, or any other plan agreed upon, will only be the result of experience and education.

The individual who has co-operated either in proration or in unit development, who feels that he has been unfairly dealt with, will hesitate to join in another co-operative movement.

Perhaps no better illustration of the importance of co-operation could be cited than that of the Farm Board, a government agency, advocating co-operation of agricultural products by improving the quality, limiting production and increasing prices.

I think you geologists and engineers should take the lead in this matter. The engineer is always ready to work along scientific, progressive lines. What greater work could the geologist do than by forming committees throughout the oil fields of the United States and suggest plans for co-operative development? I doubt if any one plan can be outlined that will be applicable to all pools.

### A Human Problem

Conversations with individuals, correspondence received, and articles read, analysis of experience with co-operation and proration, the work done by the Oklahoma Conservation Commission, our own Railroad Commission, convinces me that the president of the Society of Automotive Engineers is correct—that unitization is a human problem, one of research, analysis and education, and that many experiments must be made before any comprehensive plan can be definitely outlined.

I am opposed to any plan that restricts the opportunity of the "wildcatter," the independent or the small producer. I do not think that any such plan is contemplated. As the result of many years of association with leaders of our industry it is my belief that they are honest and sincerely working for the benefit of the industry as a whole, realizing that anything that benefits the individual benefits the entire industry. Nor could the "wildcatter" be eliminated if it were so desired. If the larger companies will not finance his "wildcat" well he will obtain, as before the organization of the majors, money from the general public. Under any plan finally agreed upon or put into general practice, the independent will drill wells and become prosperous and conservative as his prosperity increases just as he has always done.

Before any co-operative plan can become a general success, the so-called "independent" and the small producer must be assured that the unit in which he holds an interest is not held for a reserve while the companies holding the majority interest produces cheap oil from a foreign field, or from fields located more convenient to their refineries.

Small refiners and distributors must be assured that unitization does not deprive them of their source of supply.

Public opinion must be assured that this class of business receives a square deal, and the oil industry, as well as any other industry, is not above public opinion.

American producers, as a class, must be assured that if they agree to restrict production cheaper foreign oils will not replace their crude.

### Must Change with Times

Experiments to date in connection with proration, the unit plan, or unitization, and co-operative development, are tentative. Times are changing and the oil industry must change with the times just as other industries have changed.

Co-operation has become a permanent part of our daily life. I believe our problem is not only national, but international.

Should not every oil producing state be limited to its pro rata of the daily market requirements? And if we accept this condition, who is going to tell the states how much oil they should or should not produce? And if, as heretofore stated, we restrict our domestic production how are we going to be assured of protection from the cheap oils of the foreign fields?

Is the tariff the proper protection, and if you enter into that question you must consider American business interest over a long period of time and look ahead to the day when we must depend upon the foreign market for our domestic requirements—and we must consider the point of view of the public.

I doubt if they, the public, are interested in a tariff on crude oil if it leads to higher prices for gasoline.

I am not advocating any plan, but endeavoring to present the constructive thoughts of others with an interjection of a few of my own, purely for the purpose of devolping a general discussion among your profession.

I feel that we are responsible to our industry and to our country for proper economies of operation. We are dealing with a great national resource, certainly as important as any other in connection with our economic developments, and our national welfare, and perhaps the most important commodity within our country in the event of national crisis.

Therefore, as loyal, patriotic Americans, it is our duty, if we admit that a change is necessary—I am convinced that improved methods are necessary—to develop our industry economically and scientifically in the interest of stabilization and the welfare of our Nation.

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THE vast amount of exploration in areas where surface indications are geologically indefinite has made structural core drilling of greater importance even than before. It is the only means of acquiring accurate sub-surface geological data.

In this work, the recognized advantages of the Diamond Core Drill assume an increasing importance. Speed of operation—portability and low cost of maintenance—maximum core recovery even in hard formations—and the complete reliance that can be placed upon the accuracy of the information obtained—are the essential features. But any or all of these advantages may be sacrificed if diamonds are not used as the cutting agent; for the Diamond Core Drill is designed to operate at maximum efficiency and minimum cost only as a *diamond* drill.

Structural core drilling with cutting materials other than Carbons requires heavier and more powerful drills, larger and heavier rods, core barrels, and other equipment. This necessitates the drilling of bigger holes with the probability of having to resort to diamonds in order satisfactorily to core even reasonably hard strata. The loss of portability, the increased operating costs, the larger initial investment in drills and equipment, create large items of expense that more than offset any advantages gained as a result of a lower initial investment in the cutting agent.

Higher initial investment in the form of a cutting agent is of no importance to the oil operator if lower total cost and more dependable results are obtained through its use. This is particularly true in structural core drilling where diamonds more than justify their greater initial investment by assuring maximum accuracy in results accompanied by an important saving in the total core drilling costs.

*The Patrick Organization—engaged for many years in the study of drilling expense from close observation of actual operations all over the world—will gladly present to any driller or operator the data it has accumulated. It is to the practical interest of all responsible for the operation of structural core drills to investigate.*

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# Pipe Line *Buried in Salt Marsh*

Buried in a soggy, wet marsh where a soil analysis showed large quantities of crystallized salt, raw sulphur and alkali, this six-inch line of a West Texas gas producer is protected with McEverlast coatings which offer armor-like resistance to all forms of corrosion including electrolysis.

Following the general practice where such extremely corrosive soils are met, the main 16-inch trunk line between Val and El Paso was carried across the marsh on trestles.

Then, as a safety measure, engineers of the company ordered the construction of a six-inch by-pass line to be buried and specified McEverlast protection in a soil where conditions are equal to the worst.

Here is one of the few pipe-lines that has ever been actually buried in a salt marsh! In this instance, a McEverlast hot coat was applied after the penetration coat in addition to two cold coats and a McEverlast Osnaburg wrap. However, ordinary conditions are met successfully by the standard treatment consisting of a penetration coat and two electrolysis-proof or cover coats which can be quickly applied with a sling or air-gun.

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# LITTLE PROSPECT OF GAIN IN OUTPUT IN ANY OF INDIA'S OIL FIELDS

**Specially Contributed**

Notable as the 1928 production of 8,741,249 bbls. was in the petroleum history of India, including Burma, being the highest ever recorded for that country, in the opinion of Sir Edwin Pascoe, director, Geological Survey of India, the increase in output can only be regarded as an arrest in the decline which has set in and which, with possible interruptions, is likely to continue slowly and steadily during the present generation, unless a new field of importance is discovered. The chances of the latter recede year after year as exhaustive geological research continues to prove fruitless. A conservative policy rather than one of intensive development is indicated, especially in view of the national importance of petroleum, he states in his annual report. Despite the increased crude production, there was no increase in refinery throughput, the excess of production over what was needed having been used to restore depleted stocks of crude oil.

### Yenangyaung Field

The Yenangyaung Field of Upper Burma, the most highly developed field in the Indian Empire, continued to show a decline in output. In this field, it is seldom that a new well strikes a yield of over 50 bbls. in initial daily output, nearly all the exceptions occurring in the Kodaung tract. The higher production from the Burmah Oil Co.'s wells in Kodaung is due in part to the geological position of the block and to the relatively youthful stage of its producing life, but, in the main, to the proper scientific system of development which has been adopted, as compared with the intensive competitive drilling in the reserved areas.

The number of producing wells in the Yenangyaung Field in 1928 was nearly 2,450, including about 150 hand-dug wells. More than a quarter of these wells were making water at an average daily rate of 1,260 gallons, against a daily average yield of 2,030 gallons. Many remunerative wells are now being worked from the two shallow oil sands, one at about 350 feet and the other at about 650 feet, which were shut off during the competitive rush for the richer deep sands. The average daily yield of the shallow wells is from 1½ to 2 bbls. each.

A test well put down in Block 2s in the Yenangyaung Field is now the deepest well in Burma, having reached a depth of 5,267 feet. Oil and gas sands are reported to have been struck below 5,000 feet, but trouble with the well has so far prevented any estimation of the yield. The results of the test of these reported oil sands will be awaited with considerable interest, since the proving of rich oil sands at that depth would appreciably increase the prospects of the whole Yenangyaung Field. Dr. Pascoe states, however, that there is good reason to believe that undue optimism is unwarranted.

### Singu Field

The place of Yenangyaung is being steadily taken by the Singu Field which, in a few years, will undoubtedly usurp the premier position so far held by the older field. Singu, the greater part of which is in the hands of the Burmah Oil Co., is used to make good the deficiency of Yenangyaung in order to maintain supplies to the refinery. Owing to a more intensive drilling program in Singu by the Burmah company, the output of this field was 437,000 bbls. larger in 1928 than in 1927. Many of the wells are producing from the second, or 3,000-foot sand.

Drilling was first started in the Yenangyat Field in 1891 by the Burmah Oil Co. The expansion was slow up to 1894, but rose fairly rapidly from that time, reaching its peak in 1903 with an annual yield of 647,586 bbls. From 1903 on until 1925, a gradual decline carried the annual production down to less than 50,000 bbls. Since 1925, there has been a slow recovery, induced by increased drilling by the Burmah company and the activities of the Indo-Burma Petroleum Co. in the Lanywa area in the south. A number of wells have been drilled by this company on a sandbank stretching southwards into the Irrawaddy River.

### Digboi Field

In Assam, the Digboi Field showed a marked increase in production. Geological investigations by the staff of this company have aroused expectations of successful extensions of this field. Prospecting operations at Dhekiajuli, Dilli, and Burragolai have been disappointing; oil was obtained in the Burragolai well, but not in quantities to be of commercial value. In the Punjab, the output from the Khaur Field showed another increase. The bulk of this oil was obtained from the 3,100 and 3,300-foot sands. Towards the latter part of 1928, deeper sands were proved at 3,600 and 3,800 feet and these, especially the latter, were found to be satisfactory producers.

## CALIFORNIA MEN FORM MAPPING ASSOCIATION

During the last six months of 1929 the chief draftsmen of various major oil companies in California have been meeting semimonthly for the purpose of exchanging information relative to the acquisition of lands and leases. The activities of this group of men have attained such a degree of importance that it has been deemed advisable to form a permanent organization for the purpose of continuing this work. The organization known as the Oil Map Revision Association is at present composed of the following members: L. W. Newman, the Standard Oil Co.; John Wise, The Union Oil Co.; W. G. Martin, the Continental Oil Co.; R. A. duPont, the Western Gulf Oil Co.; Paul Geiger, the Ohio Oil Co.; W. B. Finch, the General Petroleum Corp.; G. J. Jackson, the Richfield Oil Co.; A. C. Johnson, The Texas Company.

The election of officers took place at the first meeting of 1930. Mr. duPont of the Western Gulf Oil Co. was elected president and secretary and Mr. Johnson of The Texas Company was elected vice president and assistant secretary.

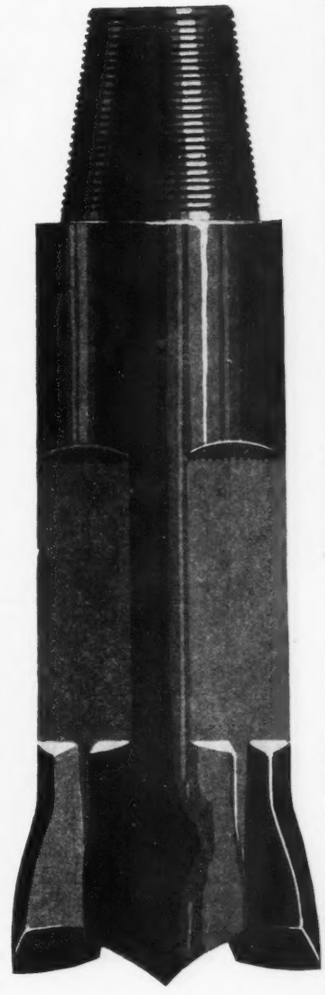
The nature of the data exchanged is in no wise confidential and could be obtained individually by each company from county records and various publications but this organization obviates the necessity for this procedure and eliminates a vast amount of duplicated effort and expense which would otherwise be involved in securing the information which is exchanged at the meetings.

The past six months has proven the value of such an association in arriving at uniformity of information as shown on the maps of all the companies represented. This is being accomplished by the circulation of a set of master maps which are passed from member to member in a definite order of rotation. Each member checks his own company's maps by the master maps, taking off new information and adding new acquisitions of properties and posting new locations, completions and abandonments of wells.

This being accomplished, the chief purpose of the organization will be the maintenance of this system of exchange and revision. Each member is pledged to bring to each meeting all new property acquisitions of record and any other useful and authentic information pertaining to lands, leases and development that may have come to his notice since the previous meeting.

## PRAIRIE P. L. SHIPMENTS

The Prairie Pipe Line Co.'s shipments of crude oil in January aggregated 6,257,643.92 bbls., a daily average of 201,859 bbls. The company's December shipments were 6,410,734 bbls., a daily average of 206,798 bbls.



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Ever since we produced the first Elliott Core Drill we have experimented with and tested every type of material available for a tool of this kind. None has been ignored. Costs have had nothing to do with the acceptance or rejection of any. Our only purpose has been "coring results".

Of all the materials available, Elliott Steel has proved by far the best. It has proved its superiority in every kind of test conceivable by our engineers, metallurgists and field men—continuously over a period of years. And this superiority is a precisely correct combination of digging ability, wearability and high percentage of core recovering and *retaining* ability under actual operating conditions.

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# ELLIOTT Core Drills

## CALIFORNIA OPERATIONS FOR DECEMBER, 1929

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for December amounted to 21,705,554 bbls., an average of 700,179 bbls. per day. This is a decrease of 10,406 bbls. per day under November production.

Total stocks of crude and all products in Pacific Coast territory increased during the month 253,666 bbls. The total stocks at the end of the month were 184,002,116 bbls. The total stock increase for 1929 was 44,001,222 bbls. Comparative figures as of December 31, 1929, November 30, 1929, and December 31, 1928, are shown in detail below.

Seventy-one wells were completed during the month with an initial daily production of 103,836 bbls., compared with 68 wells completed during November with an initial production of 91,238 bbls.

### PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

| District— | Barrels per month | Daily average Dec., 1929 | Daily average Nov., 1929 | Daily average Dec., 1928 |
|---|---|---|---|---|
| Kern River | 546,208 | 17,620 | 20,556 | 17,957 |
| Mount Poso | 352,438 | 11,369 | 11,897 | 151 |
| Fruitvale | 94,949 | 3,063 | 3,339 | 1,315 |
| Round Mountain | 78,446 | 2,530 | 1,509 | 81 |
| McKittrick | 148,971 | 4,806 | 4,738 | 4,982 |
| Midway-Sunset | 2,283,996 | 73,677 | 72,341 | 73,129 |
| Elk Hills | 514,274 | 16,589 | 17,255 | 19,244 |
| Lost Hills-Belridge | 144,075 | 4,648 | 4,291 | 4,372 |
| Coalinga | 293,496 | 9,467 | 9,663 | 10,021 |
| Kettleman Hills | 290,750 | 9,379 | 9,477 | 3,756 |
| Wheeler Ridge | 19,818 | 639 | 645 | 819 |
| Watsonville | 1,938 | 63 | 63 | 63 |
| Santa Maria | 116,854 | 3,769 | 3,406 | 4,938 |
| Capitan | ..... | ..... | 12 | ..... |
| Summerland | 14,222 | 459 | 439 | 121 |
| Elwood-Goleta | 984,772 | 31,767 | 31,903 | 11,995 |
| Santa Barbara | 4,292 | 138 | 32 | ..... |
| Rincon | 100,943 | 3,256 | 3,255 | 4,078 |
| Ventura Avenue | 1,578,473 | 50,918 | 56,893 | 50,706 |
| Ventura-Newhall | 153,092 | 4,938 | 4,949 | 5,653 |
| Los Angeles-Salt Lake | 47,351 | 1,527 | 1,587 | 1,435 |
| Whittier | 47,323 | 1,527 | 1,529 | 1,644 |
| Fullerton (Brea Olinda) | 435,574 | 14,051 | 13,356 | 14,679 |
| Coyote | 344,696 | 11,119 | 10,892 | 12,567 |
| Santa Fe Springs | 5,193,079 | 167,519 | 161,266 | 97,449 |
| Montebello | 281,706 | 9,087 | 9,247 | 10,998 |
| Richfield | 456,546 | 14,727 | 14,664 | 17,422 |
| Huntington Beach | 1,287,520 | 41,533 | 41,641 | 49,503 |
| Long Beach | 3,254,197 | 104,974 | 115,580 | 186,912 |
| Torrance | 391,361 | 12,625 | 13,184 | 15,543 |
| Dominguez | 323,259 | 10,429 | 9,342 | 10,393 |
| Rosecrans | 221,128 | 7,133 | 6,469 | 6,966 |
| Inglewood | 692,498 | 22,339 | 22,809 | 27,406 |
| Newport | 930 | 30 | 30 | 30 |
| Seal Beach | 933,883 | 30,125 | 30,578 | 28,450 |
| Potrero | 23,424 | 756 | 847 | 674 |
| Lawndale | 23,951 | 773 | 901 | 506 |
| Playa Del Rey | 25,121 | 810 | ..... | ..... |
| Total | 21,705,554 | 700,179 | 710,585 | 695,958 |
| November | 21,317,540 | 710,585 | ..... | ..... |
| Decrease | *388,014 | 10,406 | ..... | ..... |

*Increase.

### STOCKS

| | Dec. 31, 1929 | Nov. 30, 1929 | Dec. stock increases | Dec. 31, 1928 |
|---|---|---|---|---|
| Heavier crude, heavier than 20° A.P.I., including all grades fuel | 113,421,316 | 111,886,479 | 1,534,837 | 100,249,993 |
| Refinable crude, 20° A.P.I., and lighter | 41,469,458 | 42,255,303 | *785,845 | 17,954,434 |
| Gasoline | 16,432,842 | 16,485,197 | *52,355 | 10,766,410 |
| Naphtha distillates | 3,327,035 | 3,275,219 | 51,816 | 1,541,414 |
| All other stocks | 9,351,465 | 9,846,252 | *494,787 | 9,488,643 |
| Total all stocks | 184,002,116 | 183,748,450 | 253,666 | 140,000,894 |

*Decrease.

### DEVELOPMENT

| District— | New rigs up | Active drilling | Completed | Daily initial output | Active producing | Abandoned wells: Drillers | Abandoned wells: Producers |
|---|---|---|---|---|---|---|---|
| Kern River | .. | 4 | 2 | 340 | 963 | .. | 5 |
| Mount Poso | 5 | 1 | 5 | 525 | 58 | .. | .. |
| Fruitvale | 2 | 3 | 1 | 900 | 11 | 1 | .. |
| Round Mountain | .. | 2 | ... | ..... | 12 | .. | .. |
| McKittrick | .. | 1 | 1 | 175 | 282 | .. | .. |
| Midway-Sunset | 7 | 35 | 9 | 11,444 | 2,120 | .. | 2 |
| Elk Hills | .. | ... | ... | ..... | 204 | 1 | 1 |
| Lost Hills-Belridge | .. | 4 | 1 | 10 | 322 | .. | .. |
| Coalinga | .. | 4 | ... | ..... | 755 | .. | 5 |
| Kettleman Hills | .. | 19 | 1 | 4,065 | 2 | .. | .. |
| Wheeler Ridge | .. | ... | ... | ..... | 33 | .. | .. |
| Watsonville | .. | ... | ... | ..... | 7 | .. | .. |
| Santa Maria | .. | 5 | ... | ..... | 209 | .. | .. |
| Summerland | 1 | 2 | 1 | 180 | 96 | .. | .. |
| Capitan | 4 | 3 | ... | ..... | 1 | .. | .. |
| Elwood-Goleta | 6 | 5 | 4 | 11,130 | 22 | .. | .. |
| Santa Barbara | .. | 2 | ... | ..... | 2 | 6 | .. |
| Rincon | .. | 4 | ... | ..... | 31 | .. | .. |
| Ventura Avenue | 1 | 29 | 4 | 5,535 | 140 | .. | .. |
| Ventura-Newhall | 3 | 18 | 2 | 217 | 518 | 1 | .. |
| Los Angeles-Salt Lake | .. | ... | ... | ..... | 311 | .. | .. |
| Whittier | .. | 1 | ... | ..... | 168 | .. | .. |
| Fullerton | 1 | 1 | ... | ..... | 371 | .. | .. |
| Coyote | .. | 2 | ... | ..... | 208 | .. | .. |
| Santa Fe Springs | .. | 151 | 18 | 57,507 | 486 | .. | .. |
| Montebello | .. | 2 | ... | ..... | 176 | .. | .. |
| Richfield | 1 | 6 | 3 | 360 | 294 | 2 | .. |
| Huntington Beach | 3 | 4 | 4 | 530 | 557 | .. | .. |
| Long Beach | 16 | 63 | 8 | 7,305 | 990 | .. | .. |
| Torrance | .. | ... | ... | ..... | 595 | .. | .. |
| Dominguez | .. | 1 | ... | ..... | 57 | .. | .. |
| Rosecrans | .. | 1 | ... | ..... | 103 | 3 | .. |
| Inglewood | .. | ... | ... | ..... | 228 | .. | .. |
| Newport | .. | 1 | ... | ..... | 3 | .. | .. |
| Seal Beach | 1 | 1 | 1 | 888 | 161 | 1 | .. |
| Poterero | 1 | 9 | 5 | 475 | 11 | .. | .. |
| Lawndale | .. | ... | ... | ..... | 7 | 1 | .. |
| Playa Del Rey | .. | ... | 1 | 2,250 | 1 | .. | .. |
| Miscellaneous drilling | 15 | 174 | ... | ..... | ..... | 7 | .. |
| December | 67 | 558 | 71 | 103,836 | 10,515 | 23 | 13 |
| November | 66 | 577 | 68 | 91,238 | 10,586 | 18 | 6 |
| Decrease | *1 | 19 | *3 | *12,598 | 71 | *5 | *7 |
| Average for year 1929 | 109 | 610 | 76 | 108,958 | 10,550 | 26 | 18 |
| Average for year 1928 | 107 | 520 | 59 | 56,802 | 10,823 | 15 | 25 |
| Average for year 1927 | 97 | 464 | 75 | 39,992 | 11,276 | 23 | 21 |
| Average for year 1926 | 95 | 422 | 76 | 32,635 | 11,288 | 24 | 17 |
| Average for year 1925 | 105 | 417 | 79 | 42,247 | 11,393 | 28 | 12 |

*Increase.

### Review of the Year 1929

Supplementing the regular monthly report, the following yearly figures are presented:

Total stocks in all Pacific Coast territory, as of January 1, 1929, were 140,000,894 bbls.; as of December 31, 1929, they were 184,002,116 bbls., an increase of 44,001,222 bbls. during the year.

Production for the year totaled 292,036,911 bbls., an increase of 60,054,314 bbls. over 1928 production. Five hundred and twenty-six wells were abandoned during the year; of these, 212 were abandoned producers and 314 were abandoned drillers.

Below is shown the total production for the year and the daily average, also the well completions and initial daily output for the year, for each oil field in the state:

| District— | Barrels per year | Daily average | Wells completed | Daily initial output |
|---|---|---|---|---|
| Kern River | 6,089,344 | 16,683 | 40 | 8,390 |
| Mount Poso | 1,826,056 | 5,003 | 61 | 11,557 |
| Fruitvale | 594,498 | 1,629 | 16 | 8,671 |
| Round Mountain | 223,734 | 613 | 13 | 3,765 |
| McKittrick | 1,708,520 | 4,681 | 1 | 175 |
| Midway-Sunset | 25,310,976 | 69,345 | 86 | 41,816 |
| Elk Hills | 6,353,035 | 17,406 | .. | ..... |
| Lost Hills-Belridge | 1,602,425 | 4,390 | 20 | 572 |
| Coalinga | 3,558,843 | 9,750 | 1 | 45 |
| Kettleman Hills | 1,951,786 | 5,348 | 3 | 8,015 |
| Wheeler Ridge | 250,156 | 685 | .. | ..... |
| Watsonville | 22,762 | 62 | .. | ..... |
| Santa Maria | 1,535,815 | 4,208 | 2 | 450 |
| Capitan | 2,795 | 8 | 1 | 150 |
| Summerland | 93,826 | 257 | 7 | 1,085 |
| Elwood-Goleta | 9,435,819 | 25,852 | 18 | 67,888 |
| Santa Barbara | 10,868 | 30 | 3 | 1,270 |
| Rincon | 1,192,237 | 3,266 | 8 | 1,965 |
| Ventura Avenue | 20,934,388 | 57,354 | 51 | 72,685 |
| Ventura-Newhall | 1,856,706 | 5,087 | 7 | 777 |
| Los Angeles-Salt Lake | 552,614 | 1,514 | .. | ..... |
| Whittier | 563,790 | 1,545 | .. | ..... |
| Fullerton (Brea Olinda) | 4,813,942 | 13,189 | 4 | 835 |
| Coyote | 4,176,035 | 11,441 | 3 | 375 |
| Santa Fe Springs | 76,477,464 | 209,527 | 276 | 869,276 |
| Montebello | 3,657,922 | 10,022 | 4 | 415 |
| Richfield | 5,776,258 | 15,825 | 25 | 5,995 |
| Huntington Beach | 16,007,030 | 43,855 | 20 | 2,682 |
| Long Beach | 60,495,555 | 165,741 | 192 | 162,609 |
| Torrance | 5,000,218 | 13,699 | .. | ..... |
| Dominguez | 3,606,850 | 9,882 | 1 | 3,114 |
| Rosecrans | 2,463,808 | 6,750 | 6 | 3,853 |
| Inglewood | 8,768,101 | 24,022 | 5 | 1,735 |
| Newport | 15,330 | 42 | .. | ..... |
| Seal Beach | 14,418,305 | 39,502 | 19 | 18,879 |
| Potrero | 271,446 | 744 | 10 | 3,650 |
| Lawndale | 392,533 | 1,075 | 6 | 2,552 |
| Playa Del Rey | 25,121 | 69 | 1 | 2,250 |
| Total | 292,036,911 | 800,101 | 910 | 1,307,496 |

### SUMMARY OF STATEMENTS MADE JANUARY 20, 1930, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING DECEMBER 31, 1929

| | Gross stocks | Runs from wells | Other receipts | Regular deliveries | Other deliveries |
|---|---|---|---|---|---|
| National Transit | 703,855.97 | 451,222.47 | 529,571.32 | 596,904.16 | 397,161.70 |
| S. W. Pa. P. L. | 531,541.47 | 86,078.43 | 696,238.10 | 328,907.79 | 445,341.52 |
| Eureka P. L. | 1,514,703.17 | 364,779.55 | 273,523.16 | 217,339.67 | 289,381.60 |
| Buckeye P. L. (Macksburg). | 476,862.16 | 352,447.91 | 99,942.80 | 209,876.38 | 117,322.52 |
| Buckeye P. L. (Lima, etc.) | 4,286,296.85 | 90,018.07 | 2,832,225.19 | 895,636.25 | 928,872.27 |
| Buckeye P. L. (Cleveland) | 70,466.79 | 9,993.96 | 197,347.67 | 1,700.86 | 208,329.33 |
| Indiana P. L. | 652,701.92 | 4,720.28 | 3,146,642.57 | 1,426,181.84 | 1,788,822.00 |
| Cumberland P. L. | 523,373.23 | 189,528.30 | 4,511.46 | 222,397.86 | ..... |
| Southern P. L. | 323,184.71 | ..... | 104,076.42 | 65,068.35 | 23,075.22 |
| Bradford Trans. | 164,000.93 | 410,395.25 | ..... | 468,781.60 | ..... |
| N. Y. Transit | 216,820.01 | 34,104.38 | 236,028.47 | 164,584.79 | 30,743.45 |
| Northern P. L. | 437,683.50 | ..... | 608,113.31 | 201,259.08 | 308,406.45 |
| Tuscarora, Del. | 267,197.45 | ..... | ..... | ..... | 393,990.13 |
| Tidewater Pipe | 868,271.09 | 25,495.45 | .. ..... | 510,737.25 | ..... |
| Total Dec. 31* | 11,036,959.25 | 2,018,784.05 | 8,727,320.47 | 5,309,374.88 | 4,931,446.19 |
| Total Nov. 30 | 8,645,201.74 | 1,520,109.67 | 8,455,088.22 | 4,771,553.36 | 5,072,650.38 |
| Difference* | 2,391,757.51 | 498,674.38 | 272,232.25 | 537,821.52 | 141,204.19 |

*Two additional companies included.

### DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

| | Month of Dec., 1928 | Month of Dec., 1929 | 12 mos. end. Dec., 1928 | 12 mos. end. Dec., 1929 |
|---|---|---|---|---|
| Petroleum—Crude ..... Bbls. | 1,528,968 | 2,089,101 | 18,961,362 | 26,394,349 |
| Petroleum—Crude ..... $ | 2,105,437 | 3,069,174 | 26,786,248 | 37,799,683 |
| Total refined petroleum ..... Bbls. | 8,924,323 | 11,733,850 | 126,158,749 | 127,155,904 |
| Total refined petroleum ..... $ | 33,558,811 | 44,039,317 | 465,214,479 | 493,373,182 |
| Gasoline, naphtha and other light products. Bbls. | 3,670,027 | 5,957,668 | 51,751,754 | 60,006,674 |
| Gasoline, naphtha and other light products ... $ | 17,514,077 | 25,406,792 | 232,297,568 | 266,903,923 |
| Oils, illuminating ..... Bbls. | 1,223,429 | 1,676,050 | 21,846,633 | 19,820,352 |
| Oils, illuminating ..... $ | 5,568,525 | 6,638,893 | 93,466,413 | 83,787,818 |
| Gas and fuel ..... Bbls. | 3,185,858 | 3,115,941 | 41,573,185 | 35,714,784 |
| Gas and fuel ..... $ | 3,490,040 | 3,111,606 | 45,811,654 | 37,199,685 |
| Lubricating ..... Bbls. | 833,955 | 889,380 | 10,817,447 | 10,653,014 |
| Lubricating ..... $ | 6,843,625 | 8,724,531 | 91,575,955 | 102,898,697 |
| Other refined petroleum ..... Bbls. | 11,054 | 94,811 | 169,730 | 961,080 |
| Other refined petroleum ..... $ | 142,544 | 157,495 | 2,062,889 | 2,583,059 |
| Paraffin wax ..... Lbs. | 26,607,315 | 26,350,139 | 392,651,969 | 319,237,709 |
| Paraffin wax ..... $ | 1,390,580 | 1,047,201 | 16,864,409 | 14,072,094 |

## DRIFTED ROADS CAUSE EXPLOSION AND DEATH

OIL CITY, Pa., Feb. 8.—Snowdrifted roads caused an explosion of nitroglycerin in which Worthy J. Sullivan, oil-well shooter, met instant death. The nitroglycerin truck driven by Sullivan was blown to bits; the farm home of Clarence L. Seyler on the Dempseytown road was damaged, and two of its occupants, Mrs. Seyler and her daughter Mrs. Homer Flockerzie, suffered slight injuries.

Sullivan, employed by the Cupler Torpedo Co., of Titusville, was on his way with 50 quarts of nitroglycerin to shoot a well on the Perry farm in the neighborhood of Ten Mile Bottom. He was taking a roundabout route to avoid passing through Oil City where delay would be encountered owing to restrictions on transportion of explosives imposed by a city ordinance. Finding deep snowdrifts on the country road near the Seyler residence, Sullivan turned from it and had gone a few yards over a plowed garden plot when the explosion occurred, presumably resulting from the truck being jarred violently as the wheels jolted over the uneven and frozen ground.

Sullivan, who was 42 years old and a veteran of the World war, leaves his wife and two children.

## SCHAFF ELECTED PRESIDENT

Frederick Alan Schaff has been elected president of the Superheater Co., New York, George L. Bourne, retiring president, having been elected chairman of the board of directors.

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# ITALIAN OIL REFINING INDUSTRY SHOWING STEADY DEVELOPMENT

Steady development of the Italian oil refining industry is now in progress, under the energetic industrial expansion program undertaken by the Mussolini government, and the refining industry in Italy is being brought up to date through the installation of modern equipment.

There are five plants in Italy classed as refineries, but of this total only one, that of Raffineria di Olii Minerali, S. A., at Fiume, is of real importance in the refining industry at present. A new refinery under construction at Naples, however, is expected to become an important factor in the Italian oil industry when completed.

The Fiume plant of Raffineria di Olii Minerali, S. A., has recently been enlarged and modernized. Formerly rated at 35,000 tons capacity per day, the refinery capacity has been doubled through the installation of a Holmes-Manley cracking installation, with rated capacity of 1,000 bbls. per day.

A small refinery is in operation at Piacenza. This plant uses crude produced in the Piacenza district. It is operated by Raffineria de Fiorenguola d'Arde, but its output is not large.

Societa Asfalti Catrami Derivati (A.B.C.D.) operates a refinery at Ragusa, in southeastern Sicily. There is a little light oil produced here, but the bulk of the output is refined asphalt.

A new company, known as the "Sipom" is erecting a plant, equipped with Dubbs cracking equipment, which will have capacity for 18,000 metric tons of crude annually. The principal production of this refinery will be gasoline, although various intermediate distillates as well as gas oil will be produced. Underground storage for 30,000 tons of crude and products will be installed at the refinery, which will be at Naples. Crude for the operation of this plant is expected to come principally from Baku.

The Raffineria di Olii Minerali, S. A., at last reports was operating exclusively on crude obtained from the Grozny Field in Russia, although previously the plant had utilized Persian crude. The latter oil, however, was discontinued owing to the additional refining required because of its large sulphur content.

### Italian Consumption Grows

Italian consumption of refined petroleum products is growing rapidly, but the United States' share of this increased business has shown a steady falling off on the principal products in recent years. The Soviet Naphtha Syndicate is at present handling a large proportion of this business. On July 1, 1929, the Soviet syndicate closed a contract with "Petrolea," a Soviet concern operating under a concession from the Italian government, covering deliveries of large quantities of petroleum products over the next few years.

The last comprehensive report covering the Italian oil industry received by the Department of Commerce covered the year 1928. In this report, American Commercial Attache Mowatt M. Mitchell at Rome, and Trade Commissioner Miles Hammond, at Milan, reported as follows:

Italy produced during 1928 precisely 6,000 metric tons of crude petroleum, according to announcement by the department of mines. This is a negligible quantity, considering the country's large and growing requirement for petroleum products, and the location of a dependable source from which to fill this demand remains one of the major problems of national economy. No favorable results have yet come from the explorations of the Azienda Generale Italiana Petroli (the government petroleum subsidiary). Italian reserves of bituminous schists and asphaltic rock are claimed to permit a theoretical annual production of 200,000 tons of mineral oils over a long period, but the economic possibilities of such production so far have been tested only on a minute scale. Even the recent progress made in extracting mineral oils from coal promises little, owing to the scarcity of Italian coal reserves.

### Depends on Imports

Italy, therefore, must depend almost entirely on importation for its petroleum supplies. Normally, dependence on foreign supplies is reflected in high prices, but the prices paid by Italian consumers seem to be largely increased by other circumstances. International price comparisons are difficult because of the difference in quality between oils designated by the same names, but a comparison of a general nature for 1924 to 1927, inclusive, shows that gasoline received at Italian ports is priced at about 29 per cent above the quotation in the United States. This difference is largely justified by costs of transportation and losses suffered en route.

The Italian consumer, however, pays a price much higher than the one quoted at the port, owing to the customs duty and sales tax, and in addition to costs of storage, internal transportation, and profits to intermediaries. Lists compiled by the Provincial Economic Council of Milan show that the average wholesale price for gasoline in 1928 was $0.504 a gallon and for kerosene, $0.395. These prices apply to aviation spirit. Rome quotations on ordinary gasoline for motor cars are slightly over $0.44 a gallon. It is therefore possible to say that the increase in price between port and inland market is five or six times the increase between America and the Italian port. When the large syndicates are blamed for the high prices of mineral oils in Italy, it should be remembered that even the greatest commercial organization could have little influence on most of these causes of increase.

### Use of Motors and Planes

It is evident that the importation of gasoline has kept pace with the development of the use of motor cars and airplanes, increasing about 150 per cent during the past six years, and forming in 1928 almost one-third of the total petroleum imports. The net quantities of kerosene have advanced only slightly, which is readily comprehensible, but the same circumstance in the case of lurbicants is not so easily understood. While during these six years, imports of fuel oil increased nearly as much as gasoline, and kerosene imports advanced 40 per cent, receipts of lubricants rose only 20 per cent. Considering the increase in the use of motor vehicles, and the fact that no petroleum lubricants have been developed or produced within the country, it would appear that the industrial mechanical equipment of Italy has not progressed as extensively, or, at least, not been in as active operation, as is generally believed. The increase in fuel oil imports is normal.

The importation of crude oils is increasing because of the growing activity of the refinery at Fiume. However, this importation still constitutes only a small part of the total, 95 per cent of which is composed of refined products and residues, including fuel oils. It is stated in the trade that little saving is effected by refining petroleum in Italy, because of the application of Italian customs relating to petroleum imports for refining. It is also claimed that there is little market for by-products such as petrolatum and paraffin.

During the past few years there has been a continued increase in imports from Russia.

Imports from Persia tend to increase, as this source of supply is the nearest aside from fields in eastern Europe. There has been some advance in the importation from Latin America. Notwithstanding the development of Venezuelan production, however, this increase has not been large, on account of the decline in receipts from Mexico which used to reach Italy in large quantities.

### Buying Closer at Hand

There has been apparent a tendency to replace purchases in distant fields

# 17,469

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with those closer at hand, but the technical superiority of the American industry has maintained it in first place as a supplier of light oils and even more so of the higher priced lubricating oils.

Political as well as economic considerations influence the distribution and sales of petroleum products within Italy. There are four large distributing organizations, three foreign and one national. They include a subsidiary of an American company; the Nafta, belonging to the Royal Dutch-Shell; "Petrolea," subsidiary of the Soviet Naphtha Syndicate; and the S.N.O.M., or distributing organization of the government A.G.I.P. The Benzina-Petroleum is a smaller organization belonging to the Anglo-Persian.

In the spring of 1928, it is stated, the S.N.O.M. entered into an agreement with the Benzina-Petroleum to obtain supplies of Russian oil, and co-operative action of all of the companies, regarding prices and policies was reported at that time. Official objections, and representations that prices of gasoline and other products should decline in conformity with the stabilization of the lira, however, later in the year resulted in the withdrawal of the S.N.O.M. from its arrangement with the other organizations and for a period it sold gasoline at a price lower than that quoted by its competitors. The S.N.O.M. then availed itself of the active assistance of the Royal Automobile Club of Italy, with the result that the other companies reduced their prices.

**Purchases from Russia**

Since its withdrawal from the purchasing agreement with the Benzina-Petroleum, the A.G.I.P. is reported as purchasing in the open market at the best prices obtainable, mostly Russian. The breaking up of the agreement made Russian suppliers look for another distributing organization of national scope, and a society called the Petrolea, representing Russian interests, consequently, has entered the market and has obtained from the Italian Government two concessions, at Vado and Venice, for the construction of storage equipment for gasoline and oil. The Soviet agency has booked large contracts for petroleum products for delivery during the next several years.

## LOUISIANA OIL REVENUE

SHREVEPORT, La., Feb. 8.—Louisiana pocketed something over $500,000 last year from receipts from leases on bayou and lake bottoms and royalties on production. Most of the leases were in the Gulf Coast country, whence it appears the State is apt to realize much more. Fred J. Grace, registrar of the state land office, filed a report with the state tax commission in January showing that his department has received $560,173 from oil royalties and other income from the State's mineral resources. The report also estimated that the State should receive not less than $400,000 from the same sources, and probably, more during each of the next two years. Probably more, because development of coastal fields is quite active and many thousand acres of bayou, lake bottoms and wild land in favorable territory are still available for the wildcatter.

## SWEDEN'S REFINERY

After many years of total dependence upon imports for its refined oil requirements, Sweden now boasts its first oil refinery, a small plant near Nynashamm, about 40 miles southeast of Stockholm, now being built by A. Johnson & Co., Stockholm, owners of the shipping company operating the Johnson Line to the Pacific Coast of the United States, by way of the Panama Canal.

The refinery is located on the shore of the Baltic, with a pier at which large ocean-going tankers may dock. Two large tanks, each with capacity for several thousand tons of crude oil, have been constructed.

Benzine, gasoline, fuel oil, domestic burning oil, and asphalt will be produced at the new plant for sale in Sweden and neighboring markets.

## VENEZUELA SHIPMENTS INCREASED 25 PER CENT

Production of crude oil in Venezuela in 1929 aggregated 135,929,692 bbls., a daily average of 372,410 bbls., compared with 108,100,510 bbls., or 295,357 bbls. daily, in 1928. This represents an increase of 27,829,182 bbls., or more than 25 per cent.

Shipments during 1929, according to O'Shaughnessy's Oil Reports, amounted to 124,606,243 bbls., a daily average of 341,387 bbls. In the preceding year shipments were 100,035,324 bbls., or 273,321 bbls. daily. The increase during 1929 amounted to 24,570,919 bbls., or about 25 per cent.

Venezuelan Oil Concessions, Ltd., controlled by Royal Dutch interests, was the largest producer, with output of 45,627,688 bbls., averaging 125,008 bbls. daily, compared with 36,152,906 bbls., or 98,779 bbls. daily in 1928, an increase of about 26 per cent.

Gulf Oil Corp. reported the largest percentage of gain for the year, approximately 66 per cent. Its production amounted to 30,113,380 bbls., a daily average of 82,502 bbls., against 18,170,023 bbls., or 49,645 bbls. a day in 1928, an increase of 11,943,357 bbls., or 32,857 bbls. daily.

Following table shows production of various companies for 1929 and 1928 (in barrels):

| Company— | 1929 | Daily av. | 1928 |
|---|---|---|---|
| V. O. C. | 45,627,688 | 125,008 | 36,152,906 |
| Lago | 35,949,714 | 98,492 | 31,595,736 |
| Gulf | 30,113,380 | 82,502 | 18,170,023 |
| Caribbean Pet. | 14,226,218 | 38,976 | 14,146,981 |
| Creole (S. O. N. J.) | 7,634,562 | 20,916 | 5,744,305 |
| B. C. O. | 2,031,530 | 5,566 | 1,853,559 |
| Gen. Asphalt | 346,600 | 950 | 437,000 |
| Total | 135,929,692 | 372,410 | 108,100,510 |

Following table shows shipments by companies for 1929 and 1928 (in barrels):

| | 1929 | Daily av. | 1928 |
|---|---|---|---|
| V. O. C. | 40,856,296 | 111,935 | 34,364,370 |
| Lago | 32,363,544 | 88,667 | 27,339,436 |
| Creole | 7,418,621 | 20,325 | *8,663,160 |
| Gulf | 29,188,650 | 79,969 | 15,334,783 |
| Caribbean Pet. | 12,446,626 | 34,100 | 12,223,233 |
| B. C. O. | 2,000,006 | 5,479 | 1,676,342 |
| Gen. Asphalt | 332,500 | 911 | 434,000 |
| Total | 124,606,243 | 341,387 | 100,035,324 |

*Total includes proportion of Gulf Oil Co.'s shipments for January, February, April and May, 1928. Control of Creole passed to Standard Oil Co. of New Jersey in July, 1928.

## DISTRIBUTION OF OILS IN SOUTH AFRICAN AREA

South Africa is steadily forging to the front as a consumer of refined petroleum products, and the United States has continued to hold its leadership as the principal supplier of gasoline, kerosene, and oils and greases, although Persia, the Dutch West Indies, and Russia are becoming more important as factors in the South African market.

The larger companies distributing petroleum products in South Africa have well-organized services, large staffs, and splendid distribution systems, operating from storage tank farms at the two ports, Durban and Capetown, with inland storage facilities at strategic points—advantages not shared by the Russian oil coming into the market. It is expected that imports will continue to increase and this prospect apparently is substantiated by the January-May import record this year. Competition remains keen, with a considerable amount of advertising appearing in the South African press—evidence of the efforts of the large companies to increase consumption.

## DUTCH EAST INDIES BILL

A bill has been introduced in the Dutch legislature authorizing the Bataafsche Oil Co. to explore and exploit the northeast coast of Cream Island, Dutch East Indies, where oil had recently been discovered.

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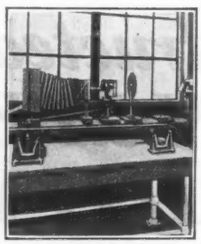

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# NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

**TEXAS PANHANDLE**
**Week Ending January 29**
**Carson County**

Dixon Creek Oil Co.'s No. 2 B. F. Block, 330 feet south and east of the NW cor. NE NW, Section 112, Block 4, I.&G.N. Survey.

**Gray County**

Empire Gas & Fuel Co.'s No. 1 W. M. Castleberry, at the C NW SW, Section 151, Block 3, I.&G.N. Survey.

**Hutchinson County**

F. Devore's No. 1 Johnson Brothers, 517 feet north and west of the SE cor. NW NE, Section 28, Block Y. Phillips Petroleum Co.'s No. 1 Johnson Brothers (Rudy), 330 feet north and east of the SW cor. SW SW, Section 30, Block Y.

**Wheeler County**

Lone Star Gas Co.'s No. 1 O. Sasher, at the C SW SW, Section 69, Block 17, H.&G.N. Survey.

**NORTH CENTRAL AND WEST TEXAS**
**Week Ending January 29**
**Andrews County**

Deep Rock Oil Co. and others' No. 1 A. R. King, 330 feet south and 2,310 feet west of the NE cor., Section 11, Block A-46, School Land.

**Archer County**

L. Hodges and others' No. 1 W. J. Logan, 150 feet south and east of the southeast corner of the J. M. Black 300-acre tract and located on the W. J. Logan 1,481-acre tract out of the A. Arms Survey A-5. Seitz-Comegys & Seitz's No. 1 J. R. Parkey, 1,750 feet south and 150 feet west of the NE cor., Section 21, J. R. Parkey Subdivision, Dallas County School Land, A-113.

**Brown County**

Darby Petroleum Corp.'s No. 1 L. A. George, 150 feet north and east of the southwest corner of the north 20 acres of the east 37.5 acres of the L. A. George tract out of Section 42, H.T.&B. Survey. Paramount Oil Royalty and others' No. 2 J. W. Shore, 150 feet south and east of the northwest corner of the J. W. Shore 132.5-acre tract out of the C. B. Banister Survey No. 627. Rowan & Tong's No. 1 E. F. George, 440 feet south and 150 feet east of the northwest corner of the W. Wagoner Survey A-1,717. Syndicate Oil Corp.'s No. 1 R. Wren, 150 feet north and 1,472 feet east of the SW cor. SE, Section 41, H.T.&B. Survey.

**Callahan County**

R. Guffey and others' No. 1 J. T. Stewart, 150 feet south and east of the NW cor., Section 8, Victoria County School Land. Humble Oil & Refining Co.'s No. 1 I. N. Jackson-E, 300 feet south and 150 feet east of the NW cor., Section 17, E.T.R.R. Survey. W. G. Sawyer's No. 1 C. B. Snyder, 200 feet north and east of the SW cor., Section 58, Bayland Orphan Asylum Land.

**Clay County**

Art and others' No. 1 M. Jones, 400 feet north and 675 feet east of the southwest corner of the M. Jones 320-acre tract out of the M.E.P.&P. Survey A-350.

**Coleman County**

Atlantic Oil Producing Co.'s No. 2 M. T. Overall-B, 200 feet south and 3,250 feet east of the most westerly NW cor., Section 9, Block 1, G.H.&H. Survey, being 200 feet south and east of the northwest corner of their lease. Taylor-Link Oil Co.'s No. 2 S. C. Stewardson, 150 feet south and 926 feet west of the NE cor., Section 96, E.T.R.R. Survey.

**Cooke County**

S. B. Owens' No. 1 Mrs. H. W. Stark, 450 feet north and 150 feet east of the most westerly southwest corner of the Mrs. H. W. Stark 466.5-acre tract out of the B.B.B.&C. Survey No. 13, A-155.

**Eastland County**

Lone Star Gas Co.'s No. 2 J. O. Calvert, 820 feet south and 663 feet east of the NW cor., Section 9, McLennan County School Land, League 2. Texas Pacific Coal & Oil Co.'s No. 4 Texas Pacific Coal & Oil Co. (Durocher), 2,320 feet north and 3,752 feet west of the southeast corner of the C. L. Durocher Survey. Southern Oil & Producing Co. and others' No. 1 J. E. Chesley-A, 660 feet north and east of the SW cor., Section 384, S.P.R.R. Survey. The Texas Company-Warner & Quinlan's No. 2 W. T. Hitson, 674 feet north and 646 feet east of the southwest corner of the S.P. R.R. Survey No. 2.

**Ector County**

C. P. Davis and others' No. 1 T. G. Hendricks, at the C SW, Section 46, Block 42, T-2-S, T.&P. Survey. Humble Oil & Refining Co. and others' No. 2 Kloh & Rumsey-D, 2,318 feet south and 440 feet east of the NW cor., Section 7, Block 44, T-3-S, T.&P. Survey. Humble Oil & Refining Co. and others' No. 2 R. L. York, 970 feet south and 440 feet east of the NW cor., Section 16, Block 44, T-3-S, T.&P. Survey. Humble Oil & Refining Co. and others' No. 3 R. L. York, 1,630 feet south and 440 feet east of the NW cor., Section 16, Block 44, T-3-S, T.&P. Survey.

**Erath County**

Associated Production Co.'s No. 2 J. B. Moring, 350 feet south and west of the northeast corner of the north 55 acres of the south 111 acres of the J. B. Moring 221-acre tract out of the M. Goff Survey.

**Glasscock County**

F. H. E. Oil Co.'s No. 1 B. B. Cox, 330 feet north and west of the SE cor. SW, Section 8, Block 33, T-2-S, T.&P. Survey. Simms Petroleum Co.'s No. 3 R. C. Coffee, 990 feet south and 330 feet east of the NW cor. E half, Section 22, Block 33, T-2-S, T.&P. Survey.

**Howard County**

The California Co.'s No. 6 D. Roberts, Lease 1, 2,493 feet north and 2,435 feet west of the SE cor., Section 137, Block 29, W.&N.W.R.R. Survey. Merrick & Bristow Oil Co.'s No. 11 D. Roberts, 875 feet north and 2,188 feet east of the SW cor., Section 137, Block 29, W.&N.W.R. R. Survey.

**Mills County**

W. H. Martin and others' No. 1 W. H. Martin, 1,320 feet southeast of the northwest line and 660 feet northeast of the southwest line of the M. Short Survey No. 192.

**Pecos County**

Cardinal Oil Co.'s No. 4 F. E. Torborg, 150 feet north and west of the southeast corner of the west half of the Arnold & Barrett Survey No. 539, A-3. Same company's No. 5 Torborg, 150 feet north and 432 feet west of the southeast corner of the west half of the Arnold & Barrett Survey No. 539, A-3. Southern Crude Oil Purchasing Co.'s No. 1 J. H. Tippett, 150 feet south and 1,050 feet west of the southeast corner of the Arnold & Barrett Survey No. 539, and located in Section 61, Block 194, G.C.&S.F. Survey, being 150 feet south and 382 feet west of the most easterly northeast corner of its 75-acre lease. Phillips Petroleum Co.'s No. 5 I. M. Ramsey, 330 feet south and 1,650 feet east of the NW cor., Section 17, Block 194, G.C.&S.F. Survey. Same company's No. 3 Monroe, 3,860 feet south and 660 feet west of the NE cor., Section 39, Block 194, G.C.&S.F. Survey.

**Scurry County**

Transcontinental Oil Co.'s No. 1 W. H. Packham, 330 feet north and east of the southwest corner of the R. N. Miller Survey.

**Shackelford County**

States Oil Corp.'s No. 1 J. H. Nail, 200 feet north and east of the SW cor., Section 24, Block 10, E.T.R.R. Survey.

**Throckmorton County**

L. Combest and others' No. 1 K. Leathers-B, 150 feet north and 1,216 feet east of the SW cor., Section 934, T.E.&L. Survey.

**Wichita County**

Arkansas Fuel Oil Co.'s No. 25 Kemp & Kempner-A, 150 feet south and 200 feet east of the most northerly northwest corner of Block 82, K.W.V.L. Survey. Same company's No. 26 Kemp & Kempner-A, 150 feet south and 550 feet

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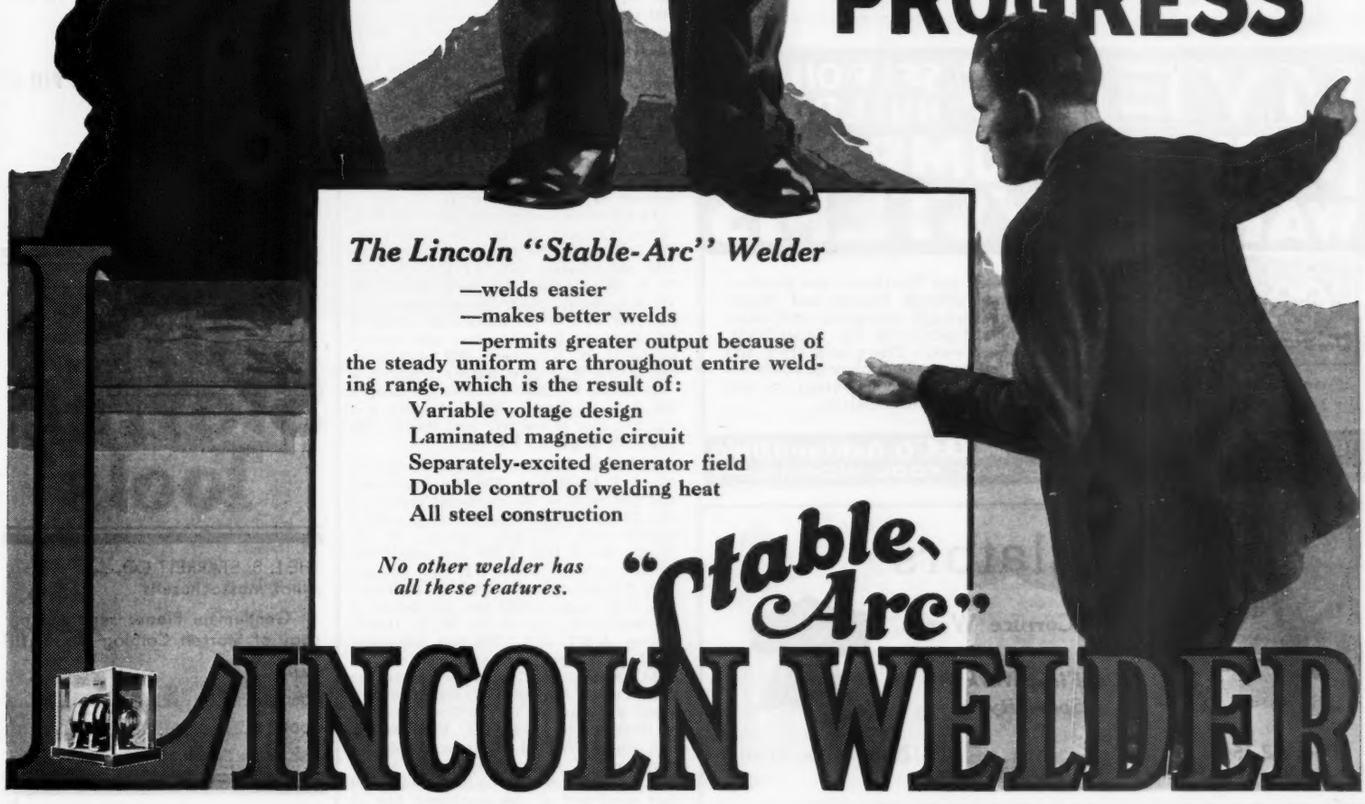

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east of the most northerly northwest corner of Block 82, K.W.V.L. Survey. Continental Oil Co.'s No. 5 J. L. and T. J. Waggoner-C, 150 feet south and east of the northwest corner of Lot 8, H. George Survey A-454. G. H. Howell's No. 1 Foster & Allen-B, 781 feet south and 150 feet east of the NW cor., Section 1, H.T.&B. Survey, A-129. United Production Co.'s No. 11 W. L. Hodges-A, 150 feet north and 550 feet east of the southwest corner of its 40-acre lease "A," out of the H.T. &B. Survey, A-139.

**Young County**

Carey & Martin's No. 1 R. E. Hill, 2,090 feet south and 1,560 feet west of the NE cor., Section 195, T.E.&L. Survey, being 150 feet south and west of the northeast corner of their 10-acre lease. W. R. Cooper's No. 1 J. P. Dunagan, 150 feet south and east of the NW cor. NE, Section 163, T.E.&L. Survey. Cranfill and The Texas Company's No. 1 H. M. Gass and others, 1,994 feet south and 1,870 feet west of the northeast corner of the H. M. Gass and others 266.16-acre tract out of Section 1,592, T.E.&L. Survey. J. C. Cunningham's No. 1 W. T. Rogers, 150 feet north and 500 feet west of the southeast corner of the south 40 acres of the east 80 acres of the W. T. Rogers 160-acre tract out of Section 222, T.E.&L. Survey. Fowler and others' No. 1 R. E. Hill-B, 878 feet south and 1,558 feet west of the NE cor., Section 195, T.E.&L. Survey. King Royalty Co. and Mooers' No. 1 H. O. Kunkel, 150 feet north and east of the southwest corner of the north 20 acres of the south 30 acres of the west 43.5 acres of the east 87 acres of the H. O. Kunkel 252-acre tract out of the G. W. Stell Survey, A-256. D. L. Wolf's No. 3 R. E. Hill, 1,790 feet south and 1,558 feet west of the NE cor., Section 195, T.E.&L. Survey, being 150 feet north and west of the southeast corner of his 22.2-acre lease. Christie Brothers' No. 2 J. Kisinger, 750 feet northwest of the northwest line of the W. J. Orrick Survey, A-217, and 3,350 feet southwest of the southwest line of the B.B.B.&C. Survey, No. 3, A-27, and located in the J. Conner Survey, A-57, being 393 feet south and 357 feet east of the northwest corner of their 20-acre lease. Cunningham and others' No. 3 J. Kisinger, 1,500 feet northwest of the northwest line of the W. J. Orrick Survey, A-217, and 2,900 feet southwest of the southwest line of the B.B.B.&C. Survey No. 3, A-27, and located in the J. Conner Survey A-57, being 452 feet north and 160 feet east of the southwest corner of their 40-acre lease.

**Corrections**

In Brown County: Eastland Oil Co.'s No. 1 W. H. Pierce, 150 feet south and 150 feet east of the NW cor. E half NW, Section 44, T.&N.O. Survey.

In Coleman County: Atlantic Oil Producing Co. and others' No. 1 Simpson, 200 feet south and 1,587 feet east of the NW cor., Section 272, S.P.R.R. Survey. T. M. Weatherred and others' No. 1 H. W. Kingsberry, 1,050 feet due south and 540 feet west of the northwest corner of the Newman 110-acre tract and located on the H. W. Kingsberry 304.2-acre tract out of the W. Farris Survey No. 279.

In Garza County: Pandem Oil Corp.'s No. 1 J. D. Justice, 330 feet north and 330 feet east of the SW cor., Section 12, Block 6, H.&G.N. Survey.

In Young County: Coleman & Shaw's No. 1 J. R. Wilson, 750 feet south and 150 feet west of the northeast corner of the J. R. Wilson 90-acre tract out of Section 153, T.E.&L. Survey. D. L. Wolf's No. 2 Hill, 1,200 feet south and 1,900 feet west of the NE cor., Section 195, T.E.&L. Survey. Christie Brothers' No. 1 Kisinger, 1,050 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 3,350 feet southwest of the southwest line of Section 3, B.B. B.&C. Survey, A-27, and located in the John Conner Survey A-57, being 165 feet south and east of the northwest corner of their 20-acre lease. J. C. Cunningham and others' No. 1 J. Kisinger, 1,650 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 2,750 feet southwest of the southwest line of


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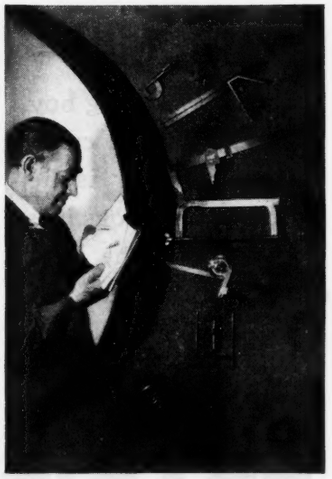

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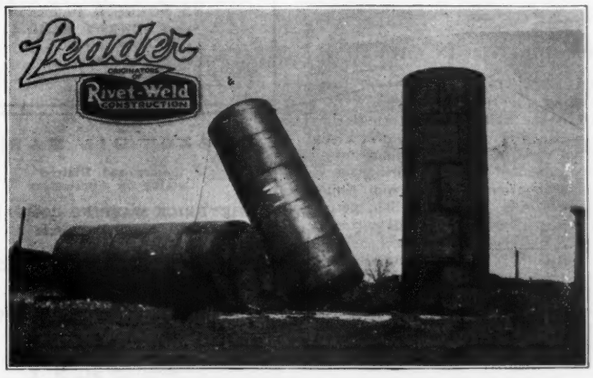


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the B.B.B.&C. Survey No. 3, A-27, and located in the John Conner Survey, A-57, being 150 feet south and east of the northwest corner of their 40-acre lease. Flultz & Kay's No. 1 Kisinger, 1,950 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 2,950 feet southwest of the southwest line of Section 3, B.B.B.&C. Survey, A-27, and located in the John Conner Survey A-57, being 165 feet south and west of the northeast corner of their 40-acre lease. T. G. Shaw and others' No. 1 M. K. Jarnigan, 650 feet northwest of the northwest line of the Orrick Survey A-217, and 4,250 feet southwest of the southwest line of Section 3, B.B.B.&C. Survey, A-27, and located in the John Conner Survey A-57. T. G. Shaw and others' No. 1 Kisinger-A, 1,200 feet northwest of the northwest line of the Orrick Survey A-217, and 4,000 feet southwest of the southwest line of the B.B.B.&C. Survey No. 3, A-27, and located in the J. Conner Survey A-57. T. G. Shaw and others' No. 1 J. Kisinger-B, 1,850 feet northwest of the southeast line and 2,550 feet southwest of the northeast line of the Kisinger 600-acre tract out of the John Conner Survey A-57, being 150 feet north and east of the southwest corner of their 50-acre lease "B." J. C. Cunningham and others' No. 2 J. Kisinger, 1,300 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 3,100 feet southwest of the southwest line of Section 3, B.B.B.&C. Survey, A-27, and located in the John Conner Survey A-57, being 165 feet north and east of the southwest corner of their 40-acre lease. Flultz & Kay's No. 2 J. Kisinger, 1,650 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 3,250 feet southwest of the southwest line of Section 3, B.B.B.&C. Survey, A-27, and located in the John Conner Survey A-57, being 160 feet north and west of the southeast corner of their 40-acre lease. T. G. Shaw and others' No. 1 J. Kisinger-C, 2,150 feet northwest of the northwest line of the W. J. Orrick Survey A-217, and 2,700 feet southwest of the southwest line of Section 3, B.B.B.&C. Survey, A-27, and located in the J. Conner Survey A-57, being 175 feet north and 150 feet west of the southeast corner of their 80-acre lease "C."

### POSSIBILITIES IN CALLAHAN

ABILENE, Tex., Feb. 8.—Oil potentialities of the territory proposed to be served by the Abilene & Eastern Railway were outlined before Examiner T. F. Sullivan of the Interstate Commerce Commission, conducting the hearing on the road's application to build from Abilene to Cross Plains. Leon English, petroleum geologist, was the principal witness.

From Mr. English counsel for the Abilene Chamber of Commerce drew the prediction that the virgin territory of Callahan County, including that between Abilene and Cross Plains and in the territory to be served by the Abilene & Eastern Railway, will in time yield a greater quantity of oil than the total recovery to date of the county as a whole.

Mr. English presented a map showing large areas which he said are "conceded by oil men to be highly promising for future development." Structural formations along the new line, he added, are "practically identical" with those in which three pools already developed have produced more than $10,000,000 worth of oil.

### REMODEL PIPE STILL

The Simms Oil Co. will shut down its Smackover, Ark., refinery about February 15 in order to make changes in its pipe still installation. The furnace of the still is to be converted to the radiant type.

### BUILD SKIMMING PLANT

A small skimming plant is being built at Gillette, Wyo., by Lee Hilliard and associates. The plant which will have a capacity of 500 bbls. daily will operate with crude oil from the Osage, Wyo., field. The products will be sold locally.


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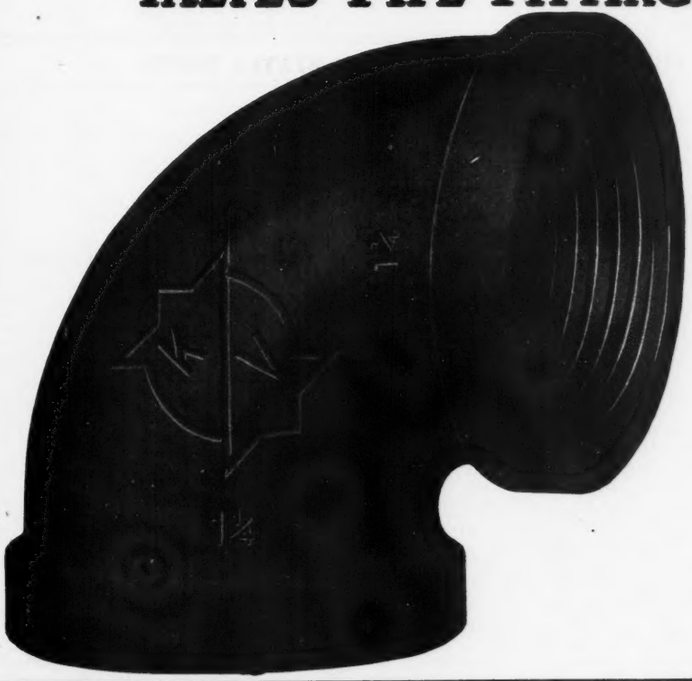

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# Oklahoma-Kansas and Eastern Pipe Line Report

### OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR DECEMBER, 1929

**Runs**

| Company— | Month (bbls.) | Dly. av. (bbls.) |
|---|---|---|
| Prairie P. L. Co.* | 4,743,000 | 153,000 |
| Gulf P. L. Co. | 1,860,414 | 60,013 |
| Texas P. L. Co. | 764,991 | 24,677 |
| Magnolia P. L. Co. | 1,755,608 | 56,633 |
| Empire P. L. Co. | 1,710,379 | 55,173 |
| Cosden P. L. Co. | 891,112 | 28,745 |
| Sinclair P. L. Co.* | 3,131,000 | 101,000 |
| Oklahoma P. L. Co. | 3,245,063 | 104,679 |
| Other lines* | 5,549,000 | 179,000 |
| Total December | 23,650,520 | 762,920 |
| Total November | 22,612,786 | 753,760 |
| Difference | 1,038,034 | 9,160 |

**Shipments**

| | | |
|---|---|---|
| Prairie P. L. Co.† | 6,410,734 | 206,798 |
| Gulf P. L. Co. | 2,975,333 | 66,946 |
| Texas P. L. Co. | 972,639 | 31,375 |
| Magnolia Pet. Co. | 2,231,518 | 71,984 |
| Empire P. L. Co. | 1,276,946 | 41,192 |
| Cosden P. L. Co. | 1,198,482 | 38,661 |
| Sinclair P. L. Co. | 3,548,337 | 114,462 |
| Oklahoma P. L. Co. | 3,227,980 | 104,128 |
| Other lines* | 6,138,000 | 198,000 |
| Total December | 27,079,969 | 873,546 |
| Total November | 26,807,089 | 893,570 |
| Difference | 272,880 | 20,024 |

**Stocks**

| | |
|---|---|
| Prairie O. & G. Co.* | 38,594,700 |
| Gulf P. L. and Gypsy Oil Co. | 9,922,691 |
| The Texas Company | 6,850,293 |
| Magnolia Pet. Co. | 7,594,960 |
| Empire P. L. Co. | 6,185,342 |
| Mid-Continent Petroleum Corp. | 3,421,846 |
| Sinclair Crude Oil Pur. Co.* | 19,914,000 |
| Carter Oil Co. | 9,361,892 |
| Oklahoma P. L. Co. | 3,711,384 |
| Other companies* | 24,703,000 |
| Total December | 130,257,108 |
| Total November | 131,355,426 |
| Difference | 901,682 |

*Estimated. †Prairie P. L. shipments inclue Texas crude oil and Sinclair shipments include Texas and Wyoming crude oil.

### EASTERN PIPE LINE REPORT FOR MONTH OF DECEMBER

**Runs From Wells**

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Indiana and Michigan for November and December:

| | Nov. 1929 | Dec. 1929 |
|---|---|---|
| Nat. Transit | 426,302.38 | 451,222.47 |
| S. W. Pa. P. L. | 82,952.71 | 86,078.43 |
| Eureka P. L. | 357,808.48 | 364,779.55 |
| Buckeye P. L. (Macksburg) | 334,853.69 | 352,447.91 |
| Buckeye P. L. (Cleveland) | 10,941.76 | 9,993.96 |
| Buckeye P. L. (Lima, etc.) | 94,141.89 | 90,018.07 |
| Indiana P. L. | 5,047.91 | 4,720.28 |
| Cumberland P. L. | 176,386.64 | 189,528.30 |
| N. Y. Transit | 31,674.21 | 34,104.38 |
| Tidewater P. L. | 23,927.23 | 25,495.45 |
| Pure Oil | 296,627.99 | 277,181.96 |
| Paragon Dev. | 11,938.81 | 11,059.01 |
| Stoll Oil Ref. | 4,324.62 | 4,362.88 |
| Bradford Trans. | 387,990.83 | 410,395.25 |
| Total | 2,244,919.15 | 2,311,387.90 |
| Daily average | 74,830.64 | 74,560.90 |

Note—Paragon Refining Co. had other receipts of 172,635.39 bbls. Paragon Deveiopment had other receipts of 389.97 bbls. Indian Refining Co. had other receipts of 450,142.36 bbls.

**Petroleum Deliveries**

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

| | Nov. 1929 | Dec. 1929 |
|---|---|---|
| Nat. Transit | 610,866.22 | 596,904.16 |
| S. W. Pa. P. L. | 335,147.92 | 328,907.79 |
| Eureka P. L. | 241,823.95 | 217,339.67 |
| Buckeye P. L. (Macksburg) | 200,936.77 | 209,875.38 |
| Buckeye P. L. (Cleveland) | 1,694.86 | 1,700.86 |
| Buckeye P. L. (Lima, etc.) | 1,293,017.06 | 895,636.25 |
| Indiana P. L. | 1,380,193.50 | 1,426,181.84 |
| Cumberland P. L. | 185,762.53 | 222,397.86 |
| Southern P. L. | 63,391.67 | 65,068.35 |
| N. Y. Transit | 265,488.60 | 164,584.79 |
| Northern P. L. | 173,230.28 | 201,259.03 |
| Tidewater P. L. | 324,984.88 | 510,737.25 |
| Pure Oil | 307,123.47 | 281,593.22 |
| Paragon Ref. | 192,159.25 | 172,635.39 |
| Paragon Dev. | 12,438.47 | 10,374.82 |
| Bradford Tran. | 494,038.59 | 468,781.60 |
| Total | 6,082,298.02 | 5,773,978.26 |
| Daily average | 202,743.27 | 186,257.36 |

Indian Refining Co. reported other deliveries of 428,638.08 bbls.

**Gross Stocks**

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of November and December:

| | Nov. 1929 | Dec. 1929 |
|---|---|---|
| Nat. Transit | 725,641.66 | 703,855.97 |
| S. W. Pa. P. L. | 526,381.77 | 531,541.47 |
| Eureka P. L. | 1,397,286.60 | 1,514,703.17 |
| Buckeye P. L. (Macksburg) | 413,588.69 | 476,862.16 |
| Buckeye P. L. (Cleveland) | 74,272.48 | 70,466.79 |
| Buckeye P. L. (Lima, etc.) | 3,181,309.11 | 4,286,296.85 |
| Indiana P. L. | 716,629.97 | 652,701.92 |
| Cumberland P. L. | 552,617.51 | 523,373.24 |
| Southern P. L. | 308,180.02 | 323,184.71 |
| N. Y. Transit | 141,455.63 | 216,820.01 |
| Northern P. L. | 346,327.62 | 437,683.56 |
| Tidewater P. L. | 1,012,222.37 | 868,271.09 |
| Pure Oil | 20,999.86 | 22,924.46 |
| Paragon Ref. | 25,402.17 | 31,470.68 |
| Indian Ref. | ..... | 156,562.07 |
| Paragon Dev. | 4,736.09 | 6,037.00 |
| Tuscarora | 267,510.68 | 267,197.45 |
| Brad. Trans. | 159,975.37 | 164,000.93 |
| Total | 9,868,537.60 | 11,253,953.46 |
| Increase | 427,436.22 | 1,385,415.86 |

**Grades of Oil**

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of November and December showing gross stocks of the above fields:

| | Nov. 1929 | Dec. 1929 |
|---|---|---|
| Pennsylvania | 3,270,041.21 | 3,454,908.10 |
| Lima | 567,411.45 | 628,606.65 |
| Kentucky | 607,043.92 | 625,239.17 |
| Mid-Continent | 4,283,691.69 | 6,488,845.03 |
| Illinois | 283,720.25 | 44,576.48 |
| Michigan | ..... | 11,778.03 |
| Total | 9,011,908.52 | 11,253,953.46 |

**Daily Average Runs**

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

| | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|
| January | 55,630 | 56,209 | 52,904 | 51,749 |
| February | 60,394 | 61,298 | 57,008 | 51,833 |
| March | 61,644 | 63,247 | 57,485 | 54,252 |
| April | 63,019 | 60,927 | 56,812 | 58,444 |
| May | 60,580 | 60,284 | 62,067 | 59,902 |
| June | 61,121 | 62,757 | 58,230 | 58,833 |
| July | 63,206 | 58,674 | 57,144 | 66,087 |
| August | 61,815 | 60,870 | 57,745 | 66,687 |
| September | 64,639 | 60,285 | 53,487 | 67,315 |
| October | 161,132 | 147,080 | 58,100 | 76,093 |
| November | 67,774 | 57,275 | 53,865 | 74,831 |
| December | 58,755 | 53,089 | 52,025 | 74,561 |

**Daily Average Shipments**

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

| | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|
| January | 156,056 | 141,227 | 146,465 | 165,721 |
| February | 159,488 | 138,534 | 167,368 | 159,387 |
| March | 150,239 | 133,777 | 158,883 | 161,474 |
| April | 152,374 | 140,227 | 172,935 | 169,737 |
| May | 160,998 | 144,594 | 180,559 | 184,281 |
| June | 160,267 | 149,772 | 188,024 | 185,404 |
| July | 160,045 | 151,850 | 189,470 | 194,763 |
| August | 151,929 | 188,653 | 192,853 | 184,946 |
| September | 158,915 | 144,213 | 194,138 | 201,214 |
| October | 161,132 | 147,036 | 176,000 | 191,367 |
| November | 172,608 | 150,975 | 176,898 | 202,743 |
| December | 136,428 | 144,504 | 173,572 | 186,257 |

**Gross Stocks**

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| January | 9,718,008 | 12,276,710 | 7,596,564 |
| February | 10,119,162 | 12,180,419 | 8,738,835 |
| March | 10,794,044 | 12,239,725 | 9,002,058 |
| April | 11,112,295 | 11,740,125 | 8,978,172 |
| May | 11,359,381 | 11,602,468 | 8,903,560 |
| June | 11,493,673 | 11,287,678 | 8,921,275 |
| July | 11,458,128 | 10,819,331 | 9,211,595 |
| August | 11,989,115 | 10,236,743 | 9,440,643 |
| September | 12,212,716 | 9,660,910 | 9,443,067 |
| October | 12,047,661 | 9,229,709 | 9,441,101 |
| November | 11,939,740 | 8,366,553 | 9,868,538 |
| December | 12,340,297 | 7,539,555 | 11,253,953 |

**Franklin Pipe Co.**

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

| 1928— | Runs | Shipments | Stocks |
|---|---|---|---|
| November | 2,663.53 | 788.47 | 19,426.99 |
| December | 3,053.60 | 3,167.53 | 19,426.99 |
| 1929— | | | |
| January | 2,099.90 | ..... | 19,313.06 |
| February | 2,469.47 | 6,873.20 | 17,009.23 |
| March | 3,330.52 | 3,595.01 | 16,745.04 |
| April | 4,864.07 | 4,243.59 | 17,365.52 |
| May | 2,688.59 | 2,455.54 | 17,598.57 |
| July | 2,947.62 | 3,329.35 | 4,503.48 |
| August | 2,742.72 | 2,889.47 | 4,356.74 |
| September | 2,925.71 | 2,897.34 | 4,385.11 |
| October | 3,083.59 | 1,754.94 | 5,713.76 |

**The Illinois Field**

The amount of Illinois oil run by the Tidewater Pipe Co. in December was 25,495.45 bbls. Deliveries were 116,809.60. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

| 1930— | Runs | Deliveries |
|---|---|---|
| January | 566,676.97 | 608,326.86 |
| 1929— | | |
| January | 570,727.38 | 545,084.66 |
| February | 517,330.17 | 503,387.70 |
| March | 728,319.67 | 586,049.60 |
| April | 515,374.27 | 654,297.96 |
| May | 608,981.60 | 673,812.83 |
| June | 568,454.70 | 818,845.97 |
| July | 611,106.79 | 828,159.44 |
| August | 625,351.99 | 746,425.06 |
| September | 582,457.66 | 669,947.72 |
| October | 622,302.83 | 558,558.68 |
| November | 565,108.75 | 427,064.63 |

Tidewater Pipe Co., Ltd., also delivered in December 99,884.13 bbls. Oklahoma oil.

## AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

| Average bbls. per day— | ATLANTIC PORTS Baltimore | Boston | New York | Philadelphia | Others | Total | GULF COAST PORTS Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | Total all ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| March | 19,903 | 968 | 31,258 | 18,581 | 7,355 | 78,065 | ..... | ..... | ..... | ..... | .... | 78,065 |
| April | 16,667 | .... | 32,333 | 13,233 | 2,234 | 64,467 | ..... | ..... | ..... | ..... | 7,333 | 65,200 |
| May | 16,226 | 2,416 | 31,326 | 10,806 | 2,129 | 62,903 | ..... | ..... | ..... | ..... | .... | 62,903 |
| June | 14,866 | 3,167 | 23,100 | 10,300 | 6,100 | 57,533 | ..... | ..... | ..... | ..... | .... | 57,533 |
| July | 15,387 | 4,806 | 34,290 | 19,388 | 2,452 | 76,323 | ..... | ..... | ..... | ..... | 4,161 | 80,484 |
| August | 20,389 | 3,129 | 35,226 | 18,903 | 5,548 | 83,194 | ..... | ..... | ..... | ..... | 12,161 | 95,355 |
| September | 19,433 | .... | 31,834 | 11,900 | 6,200 | 69,367 | ..... | ..... | ..... | ..... | 4,800 | 74,167 |
| October | 9,065 | 4,677 | 42,065 | 12,000 | 9,677 | 77,484 | ..... | ..... | ..... | ..... | 4,097 | 81,581 |
| November | 18,900 | 3,167 | 41,667 | 14,699 | 3,767 | 82,200 | ..... | ..... | ..... | ..... | 2,400 | 84,600 |
| December | 12,968 | .... | 46,129 | 13,613 | 7,225 | 79,935 | ..... | ..... | ..... | ..... | 2,336 | 82,290 |

## AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

| Average bbls. per day— | ATLANTIC PORTS Baltimore | Boston | New York | Philadelphia | Others | Total | GULF COAST PORTS Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | Total all ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| March | 18,548 | 26,064 | 145,516 | 39,162 | 28,162 | 257,452 | .... | 42,581 | 2,322 | .... | 44,903 | 302,355 |
| April | 19,733 | 18,367 | 137,233 | 50,267 | 22,567 | 248,167 | 6,867 | 25,066 | 10,367 | 1,500 | 43,800 | 291,967 |
| May | 29,806 | 19,258 | 138,000 | 49,936 | 22,322 | 259,322 | 6,677 | 26,323 | 3,000 | 1,323 | 37,323 | 296,645 |
| June | 31,433 | 8,667 | 134,600 | 42,967 | 18,300 | 235,967 | 8,600 | 22,633 | 11,800 | 2,033 | 45,066 | 281,033 |
| July | 40,097 | 15,129 | 111,677 | 43,420 | 31,516 | 241,839 | 4,774 | 12,097 | 9,516 | 161 | 26,548 | 268,387 |
| August | 33,387 | 14,355 | 162,844 | 30,936 | 20,355 | 261,677 | 4,226 | 12,742 | .... | 1,484 | 18,452 | 280,129 |
| September | 32,967 | 9,000 | 136,633 | 54,300 | 32,900 | 265,800 | 6,900 | 22,900 | 5,367 | 1,333 | 36,500 | 302,300 |
| October | 39,936 | 10,519 | 137,096 | 38,160 | 38,644 | 264,355 | 6,613 | 13,388 | 11,064 | 4,419 | 35,484 | 299,839 |
| November | 23,633 | 18,900 | 125,200 | 41,100 | 28,200 | 237,033 | 2,233 | 12,533 | 6,667 | 2,500 | 23,933 | 260,966 |
| December | 29,774 | 15,387 | 133,742 | 31,000 | 23,775 | 233,678 | 5,548 | 16,484 | 6,613 | 1,774 | 30,419 | 264,097 |

## GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

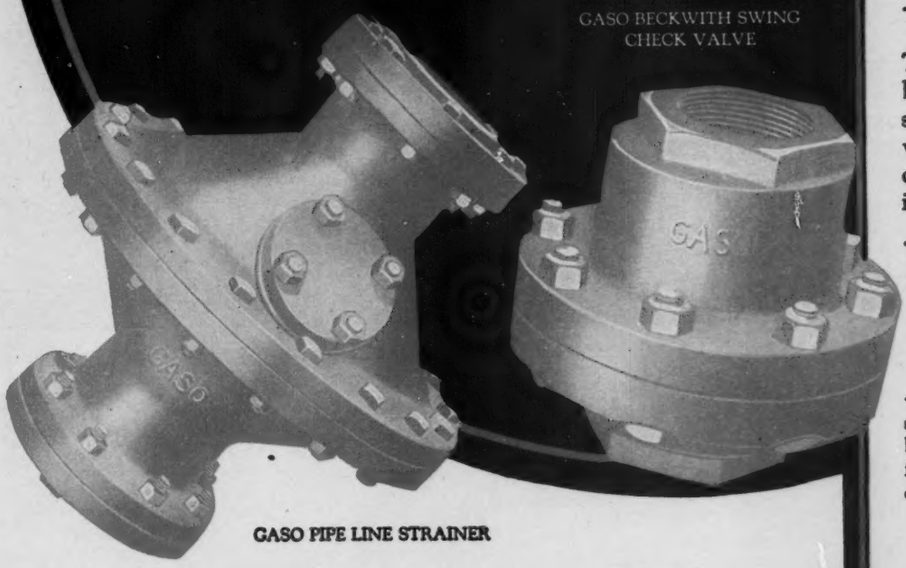
(In Barrels of 42 Gallons)

| 1929-30— | | California | Oklahoma | Texas | Kansas | Arkansas | Louisiana | Rocky Mts. | Eastern | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| January: | Month | 23,385,939 | 22,575,874 | 23,412,226 | 2,861,641 | 2,453,526 | 1,807,887 | 2,076,070 | 3,439,000 | 82,012,163 |
| | Daily average | 754,385 | 728,254 | 755,233 | 92,311 | 79,146 | 58,318 | 66,970 | 110,936 | 2,645,554 |
| February: | Month | 22,300,707 | 20,464,164 | 20,816,209 | 2,557,968 | 2,154,194 | 1,569,930 | 1,965,656 | 3,113,000 | 74,941,828 |
| | Daily average | 796,454 | 730,863 | 743,484 | 91,356 | 76,936 | 56,068 | 70,202 | 111,184 | 2,676,494 |
| March: | Month | 24,324,729 | 20,838,262 | 24,358,592 | 2,951,076 | 2,303,734 | 1,756,153 | 2,195,823 | 3,586,000 | 82,314,369 |
| | Daily average | 784,669 | 672,202 | 785,761 | 95,196 | 74,314 | 56,650 | 70,838 | 115,677 | 2,655,302 |
| April: | Month | 23,295,060 | 20,235,390 | 23,493,097 | 3,112,740 | 2,188,680 | 1,702,497 | 2,085,030 | 3,524,000 | 79,636,494 |
| | Daily average | 776,502 | 674,513 | 783,102 | 103,758 | 72,956 | 56,750 | 69,501 | 117,467 | 2,654,550 |
| May: | Month | 24,053,351 | 21,345,453 | 24,489,101 | 3,665,099 | 2,220,158 | 1,713,261 | 2,252,522 | 3,879,000 | 83,617,945 |
| | Daily average | 775,915 | 688,563 | 789,965 | 118,229 | 71,618 | 55,267 | 72,262 | 125,129 | 2,697,353 |
| June: | Month | 24,624,627 | 20,561,112 | 24,698,029 | 3,636,150 | 2,112,270 | 1,699,581 | 2,180,752 | 3,887,000 | 83,399,521 |
| | Daily average | 820,821 | 685,371 | 823,267 | 121,205 | 70,337 | 56,653 | 72,692 | 129,567 | 2,779,984 |
| July: | Month | 26,796,627 | 22,371,925 | 26,969,989 | 3,867,157 | 2,137,047 | 1,716,488 | 2,360,836 | 4,439,000 | 90,659,069 |
| | Daily average | 864,407 | 721,675 | 869,997 | 124,747 | 68,937 | 55,370 | 76,156 | 143,200 | 2,924,486 |
| August: | Month | 27,233,353 | 22,429,522 | 27,491,362 | 3,816,555 | 2,086,083 | 1,764,973 | 2,478,016 | 4,363,000 | 91,662,864 |
| | Daily average | 878,495 | 723,532 | ..... | 123,115 | 67,298 | 56,934 | 79,936 | 140,742 | 2,956,866 |
| September: | Month | 26,104,264 | 21,299,490 | 26,067,065 | 3,780,690 | 1,959,720 | 1,718,250 | 2,347,020 | 4,075,000 | 87,351,499 |
| | Daily average | 870,142 | * 709,983 | ..... | 126,023 | 65,324 | 57,275 | 78,234 | 135,917 | 2,911,716 |
| October: | Month | 26,895,160 | 20,821,646 | 26,412,167 | 3,429,468 | 2,000,627 | 1,956,326 | 2,392,952 | 4,482,000 | 88,389,746 |
| | Daily average | 867,586 | 671,666 | 852,004 | 110,628 | 64,517 | 63,107 | 77,192 | 141,358 | 2,851,282 |
| November: | Month | 21,317,540 | 19,193,760 | 24,896,034 | 3,430,560 | 1,911,060 | 1,853,565 | 2,350,110 | 4,029,000 | 78,981,629 |
| | Daily average | 710,585 | 639,798 | ..... | 114,352 | 63,702 | 61,785 | 78,337 | 134,300 | 2,632,720 |
| December: | Month | 21,705,554 | 20,692,876 | 25,609,823 | 3,549,066 | 1,917,071 | 1,878,352 | 2,378,754 | 4,168,100 | 81,299,596 |
| | Daily average | 700,179 | 648,156 | 818,394 | 114,486 | 61,841 | 60,592 | 76,734 | 134,455 | 2,622,568 |
| Total 12 months | | 292,036,911 | 252,229,474 | 298,713,694 | 40,658,170 | 25,443,570 | 21,137,263 | 27,063,541 | 46,984,100 | 1,004,266,723 |
| Daily average | | 800,101 | 691,040 | 818,394 | 111,392 | 69,708 | 57,910 | 74,147 | 128,724 | 2,751,416 |

# Fittings

GASO GRAY
IRON TEE

GASO GRAY
IRON ELL

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CHECK VALVE

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